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ABSTRACT

This project evaluates the status of distance learning at 54 public, two-year community, and technical colleges in Texas. Data was collected from the Web sites of each of the institutions. The Web site data indicted that 44 of the colleges refer specifically to distance education courses offered. To assess what student support services are available and are utilized electronically, a comparison of traditional campus-based student support services and online services was conducted. Results of this comparison indicated that the same services offered on campus would be beneficial to distance learners. Currently, evidence indicates that there is inadequate online student support service. While informational services are provided, students must go on campus to take advantage of advising and counseling services. Learning resources, such as libraries and electronic databases, were accessible through 77% of the web sites. It was found that interactive technologies, such as e-mail, online request forms, and tutorials are combined with traditional services, such as toll free numbers, to link students to support services. Examples of representative web pages with information on student support service are included. An extensive literature review distinguishes the different characteristics between distance and traditional education, and examines the internal and external influences on the development of distance education. (Contains 68 references.) (AF)

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DISTANCE EDUCATION PROGRAMS IN TEXAS COMMUNITY & TECHNICAL COLLEGES
–
ASSESSING STUDENT SUPPORT SERVICES IN A VIRTUAL ENVIRONMENT

BY

CHERRY BETH LUEDTKE

AN APPLIED RESEARCH PROJECT (POLITICAL SCIENCE 5397)
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ABSTRACT

This applied research project serves as a preliminary evaluation of the status of distance learning at Texas public two-year community and technical colleges. The project includes a survey of the literature relevant to distance education, compares traditional classroom environments with distance education settings, and presents a number of attributes unique to distance education. Characteristics that distinguish distance education from traditional programs include the separation of teacher and student, the use of some type of technology to facilitate communication, and the learner's role as director of the learning process. Pertinent theories and definitions and the chronological development of distance learning are summarized. A discussion of distance education and public administration examines internal and external influences on the development of distance education and summarizes the benefits and challenges distance education presents to postsecondary educational providers.

The four patterns of organizational structure for postsecondary distance education are identified as technology-assisted instruction, consortia or collaboratives, contracted or brokered arrangements and virtual universities An examination of organizational structure describes administrative and management concerns such as programming, the instructor's role in the teaching and learning process, and faculty-student interaction. Asynchronous and synchronous technologies used to facilitate communication and interaction in a distance learning environment are identified and described.

The project organizes and summarizes the data collected from content analysis of 54 Texas public community college and technical institute Web sites. Web sites were analyzed September 20 – October 12, 1999. Of the 54 Web sites analyzed, 44 colleges

refer to distance education. There is almost equal distribution between colleges that offer distance education courses (43%) and colleges that indicate a department or unit responsible for overseeing the distance teaching and learning process (39%). Seven distance education providers indicate participation or membership in consortial or collaborative efforts.

Student support services that provide effective interaction are a significant component of the organizational structure and facilitate the distance learner's role as director of the learning process. A review of traditional campus-based support services identifies admissions, registration, assessment, counseling and advising, learning resources, and other services as key factors in a successful distance learning experience. A practical ideal type, based on criteria derived from the literature and guidelines provided by accrediting agencies, professional organizations or distance education consortia is used to assess the types of support services provided for the distance learner.

An assessment of the level of student support services provided for students enrolled in distance learning courses or programs reveals that few services are available. Admissions is assessed as poor in providing services for the distant learner. Colleges are using the Web to provide current information on the teaching and learning process, however, colleges often transfer print-based documents to the college Web site with little or no revision. Evidence indicates that although colleges are providing informational services, many institutions require students to acquire assessment, advising and counseling services on campus. Four components, Information, Assessment, Registration, Advising and Counseling, and Other services were assessed as 'very poor' in providing services defined by the practical ideal type.

Learning Resources is rated as 'adequate' in providing services defined by the criteria. Learning Resource services at community and technical colleges indicate an awareness of the distance learner's need to access library/learning resources and services that support the teaching and learning process. Library catalogs and electronic databases are accessible through 77% of the college Web sites analyzed.

An institution's commitment to providing appropriate use of technology to meet students' needs and learning styles is reflected in the methods of interaction or systems of delivery utilized in providing student support services. Interactive technologies enable colleges to maximize social interaction for the distance learner and a diverse selection of technology-based alternatives effectively adapt the method of interaction to a student's particular learning preference, schedule or special needs. Evidence documented by the research indicates community and technical colleges are using technology-based alternatives to provide student support services. E-mail and web-based services such as on-line request forms and tutorials combine with the more traditional technologies such as toll-free telephone numbers to provide students with student support services.

The project concludes with recommendations for increasing access to student support services and for future research. The study also includes examples of representative Web pages for each component of support services.

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Chapter 1 – Introduction

Today's postsecondary[1] student body is changing from an 18 to 24-year-old full-time student body, to one where now nearly half consists of part-time students, life-long learners and working individuals with just-in-time needs for postsecondary education. Community colleges are expected to meet the changing needs of the communities they serve through open access, a high-quality and diverse curriculum, and an array of alternative delivery systems that accommodate increasingly complex student lifestyles (Lape & Hart, 1997, 15). Governmental agencies and educational institutions recognize that distance education[2] can provide an expedient, cost-effective and equitable way to provide access to a wide range of programs. Consequently, distance learning is becoming an important part of governmental strategies to educate large numbers of individuals conveniently, rapidly and efficiently.

The community college has historically embraced classroom computer technology, using computer-based labs and classrooms at nearly twice the rate of public universities (Dillon & Citron, 1997, 1). Furthermore, community colleges have also demonstrated the greatest use of and commitment to the application of the distance education technology. For example, in 1998, 67 Texas public community/technical colleges reported participation in distance education. Total enrollment in distance learning courses at all Texas postsecondary institutions for that year is estimated at about 60,000 of the state's 900,000 students (Alofsin, 1998, 8).

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[1] Postsecondary and higher education are used interchangeably throughout this paper.
[2] Distance education and distance learning are used interchangeably throughout this paper. Each term refers to instruction where the instructor and student are separate in time/space from one another. There are

While some colleges and universities are developing their own distance education capacities by utilizing technology-assisted instruction, other institutions opt for a different organizational structure or approach. Many colleges and universities elect to provide distance education by combining their efforts in cooperative ventures or working within consortia or collaboratives (Schweiger, 1994, 45-46). Smith (1998, np) notes that demand for extensive access to learning resources has prompted the development of diverse educational networks. The *Texas Higher Education Distance Learning Master Plan*[3] (hereafter referred to as the *Master Plan*) observes that a flexible and responsive 'network of networks' is evolving to provide access to post-secondary education through distance learning. Examples of this evolving network include Dallas Community College District's recent entry into the Western Governor's University and the establishment of The Virtual College of Texas.

Characteristics that distinguish distance education from traditional programs include the separation of teacher and student, the use of some type of technology to facilitate communication, and the learner's role as director of the learning process. As colleges and universities move to make programs available beyond their campuses, they are pressured to rethink the role of technology and to develop policies that address issues such as instructional design, faculty-student interaction and student support services (Johnstone & Krauth, 1996, 41).

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a number of terms currently in use including open learning, independent study, guided study, and virtual learning.

[3] House Bill 85 of the 74th Texas Legislature directed the Texas Higher Education Coordinating Board (Coordinating Board) to formulate a Distance Learning Master Plan "...for the development of distance learning and other applications of instructional electronic technology by institutions of higher education."

STUDENT SUPPORT SERVICES

Traditional campus-based education is provided within a social context – students interact with instructors, peers and college staff. There is opportunity to access a variety of programs and services. Academic and student support services, traditionally campus-based, have eased students' adjustment to college, assisted in their intellectual and personal growth and contributed to their academic successes (MacBrayne & Russo, 1995, 167).

Distance learning is different from traditional education. It is essential that colleges provide student support services such as advising and counseling at every step of the distance teaching and learning process. For example, a first-year student cannot evaluate his ability to successfully meet the challenges posed by distance education unless he is able to clearly define his individual learning style, need for direction and supervision, and potential barriers to successful completion of his educational goals. In contrast, adult learners may require assistance in transferring academic credit, evaluating professional or life-experience credit or selecting an appropriate degree plan.

The isolation that may be experienced by the distance learner places the student at risk of failing to meet educational goals. Secondly, distance learners may stop participating in course activities or drop out of classes or programs because of the pressures of meeting the challenges of every day life (Perez, 1998, np). The objective of support services is to meet student needs inside and outside of the classroom (Kingan & Alfred, 1993, np). Thus, student support services act as an essential link in the distance education process, connecting students with the institution. Mentors, counselors, instructors, support service specialists and academic advisors should work together to

refer students as needed to specific services such as counseling, financial aid or job placement. This connectivity and integration of services enables the distance learner to feel part of the college community while providing access to a network of services and programs that ensure a student successfully meets his or her educational goals.

Because access to student support services is a critical factor in a successful distance learning experience institutional planning should address support services that may be necessary or appropriate for distant learners. Furthermore, distance learners also need to access services in the same way they access instruction—from a distance and at times that fit their schedules. Finally, distance education programs must plan for a variety of concerns such as fairness and equity in admissions; recognition of prior learning; transfer of credits; degree program planning; student orientation regarding the distance education experience; and assessment of students' progress. Services include advising, counseling, libraries, and access to course resources. Additional services are placement testing, program advising, financial aid application assistance, textbook delivery, access to support materials and faculty, and examination proctoring.

Postsecondary educational accrediting agencies[4] regard information technology resources and systems as essential components of postsecondary distance education. The method of interaction or system of delivery utilized in providing student support services may be seen as an indication of an institution's commitment to providing appropriate use of technology to meet distance learners' needs and learning styles (Western Cooperative, 1997, 1). Resources and systems include computer hardware and software, databases,

[4] See, for example, SACS. *Criteria for Accreditation Section 5.3. Information Technology - Resources and Systems.*

and communications networks. One resource, the Internet and its World Wide Web (WWW, Web) has had a significant impact on the delivery of distance education and the structuring of learning materials. The Web, a system of Internet servers, is a delivery technology that allows information to be distributed worldwide, using a generic interface that can be obtained by running programs that work on all computer platforms (Willis, 1997, 83; Hackbarth, 1997, 192).

The institutional Web site enables a college or university to meet accreditation criteria[5] that require institutions to make available for students or the public accurate catalogs, official publications or other items relative to attending or withdrawing from the institution. Secondly, in addition to meeting accreditation requirements, colleges and universities can easily and frequently update established Web pages to provide students with clear, complete, and timely information on the curriculum, course and degree requirements (Western Cooperative, 1997, 7). Finally, the Web's ability to combine print, audio, and video-based resources with computer-mediated or computer-based instruction enables educational support services to adapt effectively to the distance learner's particular learning preference, schedule or special needs (Khan, 1997, 6).

Purpose of Applied Research Project

The purpose of this applied research project is to gauge or assess the preliminary level of student support services provided for students enrolled in distance learning courses or programs at Texas two-year public community or technical colleges.[6] In

[5] See, for example, SACS. *Criteria for Accreditation Section 4.4 Publications*

[6] This applied research project will focus on Texas public community/junior and technical colleges authorized to offer certificates or associate degrees. See Appendix A for a list of institutions.

addition, this applied research project explores the status of institutional World Wide Web sites, distance education programs and consortial or collaborative relationships at the institutions. Finally, the project describes the methods of interaction or types of delivery systems utilized for providing student support services to distance learners.

Distance education is evolving; consequently, this study serves as a preliminary evaluation of the status of distance learning at Texas public community and technical colleges. The results of this project are intended to answer a number of questions concerning distance education at Texas public community and technical colleges.

1) Is each Texas public community and technical college Web site providing information about the teaching and learning process?

2) Are colleges offering distance education and providing information on the distance teaching and learning process?

3) Are colleges actively participating in consortial or collaborative efforts?

4) What methods of interaction or systems of delivery are used to provide support services for distance learning?

5) Are colleges' Web sites adequately providing access to support services that are appropriate to the distance learner's needs, preferences and schedule?

Data collected for some questions (Questions 1, 2, 3 and 4) will describe the status of distance education at community and technical colleges. Data collected for Question 5 will provide information used to gauge support services for distance learners.

The results of this study may serve as a benchmark for other studies or for an institution's assessment of its own support services. Thus, the results should serve as a status report for colleges that have a distance education program defined as an operating unit within the organizational structure and provide college administrators a checklist of

strengths and weaknesses in support services available for distance learners. In addition, colleges who are initiating a distance education program should find the results of this project useful as a resource for locating examples of college Web sites with student support services for distance learning. Finally, the results of this study should provide colleges currently participating in a cooperative effort, as well as colleges interested in joining a consortia, with an analysis and comparative study of services provided by individual institutions -- enabling colleges to work cooperatively in minimizing duplication and maximizing resources.

Summary of Contents

Chapters 2, 3 and 4 provide theoretical and practical perspectives of postsecondary distance education and student support services in a virtual environment. Chapter 2 summarizes the literature on distance education and offers insight into the theories and definitions that serve as a basis for accrediting agency criteria, regulatory agency requirements and best practices models used by postsecondary distance education providers.

Chapter 3 discusses the literature relevant to the administration and management of postsecondary distance education programs, developing a pragmatic application of theories and definitions provided in Chapter 2. Chapter 3 also includes a discussion on the selection and utilization of technological resources. Chapter 4 continues the discussion of administrative concerns by summarizing the literature relevant to student support services in a virtual environment.

Secondly, Chapters 3 and 4 discuss pertinent accrediting criteria, regulatory requirements and recommended guidelines relevant to postsecondary education. Finally, by citing case studies presented in the literature as examples of postsecondary distance education programs noted for quality, the chapters develop a practical ideal type for student services in a virtual environment.

Chapter 5 develops the conceptual framework for the research, summarizes the selected methodology and describes statistical techniques used to analyze collected data. In Chapter, 6, the results of the research are presented. Chapter 7 summarizes overall results and offers recommendations for further study.

Chapter 2 - Distance Education

Statement of Purpose

This chapter summarizes the literature concerning theories and definitions relevant to distance education. The literature review begins with an overview of the history of distance education and a summary of definitions and major areas of study relevant to the field. The second part of the chapter compares the characteristics of traditional classroom education with those of distance education. The third part of this chapter provides information on communication and interaction in distance learning within the context of education's socializing functions. The fourth part identifies characteristics of the distance learner and describes the process of learning in a distance education environment. Finally, the chapter concludes with a discussion of distance education and public administration, examines internal and external influences on the development of distance education, and summarizes the benefits and challenges distance education presents to postsecondary educational providers.

HISTORY, THEORY AND DEFINITION

History

The history of distance education is relatively brief – approximately 150 years. Postsecondary distance education has been available in the United States since the late 1800s (Schweiger, 1994, ii). Until about 25 years ago, it consisted primarily of correspondence study, home study and independent study (Schweiger, 1994, 39). Correspondence courses, with instructor-student interaction limited to mailing lessons

and completed work, were the predominant method of providing distance education (Schweiger, 1994, 39). The introduction of radio, followed by television and satellite communications, changed the method of delivery somewhat, but the basic model of instruction primarily remained the same.

Witherspoon (1997, 5) explains that, in the United States, colleges and universities used radio broadcasting in the 1920s to extend educational opportunity beyond the campus and to enable their own engineering students to become familiar with the new technology. The advent of television brought the first telecourses and Witherspoon says that there was a heavy instructional component in the first educational stations in the 1950 and 1960s. Outside the U.S. during the 1950s, distance education began to see a burst of activity and growth beginning with the establishment of one of the first open universities, the University of South Africa.[7] The British Open University in 1969[8] (Schweiger, 1994, 28-29) and Germany's FernUniversität-Hagen in 1975 followed the South African endeavor.[9]

For the next quarter century, education made creative use of technological advances such as satellite communication, closed circuit television, and film and video (Witherspoon, 1997, 5). In 1981, the Annenberg/CPB Project, the product of an agreement between the Corporation for Public Broadcasting and The Annenberg School

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[7] The literature disagrees on the timeline. Schwieger (1994, 28-29) offers 1951 as a founding date for the South African University; Schlosser & Anderson (1994, 4) state that the institution was founded in 1962. The University's Web site claims the institution's 1946 endeavor pioneered tertiary distance education in the western world (<http://www.unisa.ac.za/dept/ccm/general/index.html>).

[8] Schlosser & Anderson (1994, 4) disagree, contending that the Open University was founded in 1971. According to the University's Web site, it admitted its first students in 1971 (<http://www.open.ac.uk/about/>).

[9] FernUniversität's Survey of Distance Training in Germany (<http://www.fernuni-hagen.de/ZIFF/v1-ch25.htm>)

of Communications, was launched.[10] The Project's goal of providing college credit courses through radio and television was not new. However, the intended scope of the Project was to educate students throughout the nation – an idea that was unprecedented in the United States. The Project's *Going the Distance: A Handbook for Developing Distance Degree Programs Using Television Courses and Telecommunications Technologies* serves as a benchmark in providing practical information on the development, implementation, and administration of a distance education program.

In the 1990s, the introduction of the Internet and the World Wide Web significantly influenced the development of traditional and distance education in the United States. Institutions are acquiring connectivity, and school, class, and student pages are appearing on the Web (Maddux & Johnston, 1997, 6). According to the National Center for Education Statistics (Lewis, Alexander, & Farris, 1997, 11), a third of higher education institutions offered distance education courses in fall 1995. About 36 percent of the institutions offering courses utilized two-way online interaction or other computer-based technology to deliver distance education courses.

Johnstone and Tilson (1997, 63) note that dozens of virtual universities were founded in the 1990s. Gladieux & Swail (1999, 29) explain that the Western Governors University (WGU) began operation as the first exclusively virtual university in 1998. In addition to the Open University and WGU, Gladieux & Swail list California Virtual University, Jones Education Company College Connection Online, University of

[10] Measuring the Immeasurable: The Annenberg/CPB Project's Contributions to Higher Education, an Annenberg/CPB Project publication (<http://www.learner.org/aboutacpb/highered/13yrreport/>).

Phoenix, Real Education, and BlackBoard, Inc., as leaders in establishing virtual universities.

Theory

The establishment of the Open University of Great Britain marked the beginning of a process to establish distance education and open learning as legitimate approaches to providing quality postsecondary education (Schweiger, 1994, i-ii). Theories of autonomy and independence were predominant in the late 1960s and the early 1970s. Major representatives are Rudolf Manfred Delling, Charles A. Wedemeyer and Michael G. Moore (Keegan, 1996, 56). A second branch of study, comprised of comparative studies was also predominant throughout the 1960s and early 1970s. Otto Peters'[11] analysis and subsequent rejection of these studies led to the development of his theory of industrialization as a model for distance education. Perspectives that are more contemporary are from Börje Holmberg, John A. Bååth, David Stewart, Kevin C. Smith and John S. Daniel, who provide theories of interaction and communication (Keegan, 1996, 56; Schlosser & Anderson, 1994, 1-5).

Michael G. Moore's Theory of Transactional Distance offers two classifications that distinguish distance education from traditional programs. In the first classification,

[11]Desmond Keegan is cited frequently in Chapters 2, 3, and 4. Keegan founded the international journal *Distance Education* in 1979 and the Routledge Studies in Distance Education series in 1992, acting as editor for the series from 1993 to 1996. The author's *Foundations of Distance Education* is the authorized text for the Open University's MA Open and Distance Education program. Desmond Keegan was head of distance training in Australia in the 1970s and 1980s, foundation chief executive of university level distance education in Italy in the 1980s, and managing director of Distance Education International in Dublin in the 1990s. Keegan also has been active in distance education at FernUniversität, the Open University-UK and China's Hebei TV University. Keegan's *Otto Peters on Distance Education* enabled a much wider audience to read, respond to and build on the German scholar's work. Prior to Keegan's efforts, nearly all of Peters' publications were available in German only. Keegan collaborated with Peters in translating selections from Peters' major publications. The translations also provide insight into Peters' role in the foundation of the FernUniversität.

the learning program occurs separate in time and place from the teaching programs. In the second, the learner has an influence equal to the teacher's in determining learning goals, resources, and evaluation decisions (Keegan, 1996, 73). In 1993, Moore (32) published a reappraisal of his position. The author describes the development of highly interactive telecommunications media as the most important evolution in distance education noting that these media provide less structured programs than recorded or print-media. Moore explains that the technology facilitates inter-learner dialogue between learners and other learners, alone or in groups, with or without the real-time presence of an instructor.

According to Keegan (1996, 113), Otto Peters set the agenda for a theoretical framework for distance education in the early 1970s. Otto Peters gave a comprehensive listing of theories of distance education: a fringe form of ordinary teaching; an institutionalized form of individual education through teaching aids; expanded form of teaching by correspondence with feedback; and a special type of mass education (Keegan, 1980, 8).

Peters concluded that all were inadequate and attempted to show that distance education is structurally different from traditional face-to-face instruction (Keegan, 1980, 9 & 1994, 204). Peters characterized the relationship between teacher and taught in a distance education system as being controlled by technological rules, maintained by emotion-free language (Keegan, 1994, 160). Furthermore, Peters' description of distance education was significant for the application of the principals of industrial organization (division of labor) to the instructional process. Peters suggested the introduction of criteria taken from the industrial production process: division of labor (on the side of the

teachers): mechanization; automation; application of organizational principles; scientific control; objectivity of teaching behavior; mass production; concentration and centralization (Keegan, 1994, 205).

Börje Holmberg's theory reiterates the emphasis on separation of teacher and student. Furthermore, Holmberg introduces the role of an organizing entity as a linking mechanism that facilitates effective learning. According to Holmberg, the separation of teacher and learner is fundamental to all forms of distance education whether they be print-based, audio/radio-based, video/television-based, computer-based or satellite-based. This separation distinguishes distance education from all forms of conventional, face-to-face, direct teaching and learning. The structuring of learning materials and the linking of these learning materials to effective learning by students through an educational organization differentiate distance education from (1) private study, (2) learning from interesting books or (3) cultural television programs (cited in Keegan, 1980, 5-6).

Definition

The theoretical discussions of distance education emphasize the separation of instructor and student. However, contemporary attempts to define distance education are complicated by the almost infinite variety of electronic programs and possibilities (Schlosser & Anderson, 1994, 8).

Rossman (1992, 8) believes that incorporating new electronic technologies into the teaching and learning process blur the boundaries between on-campus and distance education. For example, even in the traditional, classroom-based environment, instructors may have Web pages with class assignments, incorporate Internet research into traditional research projects, or communicate with students by e-mail. Nonetheless,

the introduction of the Internet and the resulting impact on distance education is especially significant. The computer re-creates the elements of a traditional classroom in an electronic environment. Distance learners, separated not just by space but also by time, can participate in the virtual class almost as if they were in the same room in a school building (Lehman, 1995, 148-149).

Furthermore, institutions offer distance education for reasons other than the initial intent of providing education to students in isolated areas. Witherspoon (1997, 29) explains that 'distance' is not always an accurate label. The author provides examples of colleges and universities that offer distance education courses in response to demand for courses with closed sections. The growing concern about the time to graduate, or the number of years a student is enrolled in a four-year program, have also prompted institutions to actively promote enrollment in distance education courses. Finally, many students opt for distance education courses because of time, not space.

Definitions of distance education provide insight into the impact of technology and the growing acceptance of distance education as an alternative to traditional classroom instruction (Smith, 1998, np). In 1966, Rudolf Manfred Delling's definition noted that distance education is achieved by bridging the physical distance between student and teacher by means of at least one appropriate technical medium (Keegan, 1996, 57). Michael S. Moore's 1973 definition of distance education separates teaching in two areas, preparation and delivery. Moore uses the term 'distance teaching', and adds to previous definitions an emphasis on technical media and two-way communication, explaining that communication between the teacher and the learner must be facilitated by print, electronic, mechanical or other devices (Moore, 1973, 664). Börje Holmberg's

1977 definition stresses the importance of an institutional framework to facilitate communication. Holmberg (cited in Keegan, 1996, 42) believed that students that are not under the continuous, immediate supervision of tutors would benefit from the planning, guidance and tuition of a tutorial organization.

Portway and Lane's 1994 (195) definition continues Moore's emphasis on the method of delivery and clarifies the roles played by teacher and student. The authors explain that distance education refers to teaching and learning situations in which the instructor and the learner or learners are geographically separated, and therefore, rely on electronic devices and print materials for instructional delivery. They continue by stating that distance education includes distance teaching – the instructor's role in the process – and distance learning – the student's role in the process. Keegan (1980, 7) explains that important elements of Moore's definition are clarification of the student's role in the distance learning process and the requirement that the selected system of delivery allows the learner to initiate communication.

Garrison and Shale (1987, 13) argue that, in light of advances in distance education delivery technology, many of the earlier definitions do not correspond to the existing reality as well as to future possibilities. Garrison and Shale's 1987 (11) definition states that 'distance' education implies that the majority of education communication between (among) teacher and students(s) occurs noncontinguously. The authors' definition also notes that distance education uses technology to mediate the necessary two-way communication for facilitating and supporting the educational process.

In Keegan's 1996 (44) synthesis of definitions and theories relevant to distance education, the author identifies the following as frequently named characteristics of distance education:

- separation of teacher and learner which distinguishes it from face-to-face lecturing
- influence of an educational organization which distinguishes it from private study
- use of technical media, usually print, to unite teacher and learner and carry the educational content of the course
- provision of two-way communication so that the student may benefit from or even initiate dialogue
- possibility of occasional meetings for both didactic and socialization purposes
- participation in an industrialized form of education

Definitions of distance education have shown slight differences in emphasis, reflecting the influence of technology, changes in institutional purpose for offering distance education, and the growing acceptance of distance education as a legitimate form of education. Nonetheless, three of the key characteristics outlined in Keegan's synthesis continue to be valid:

- separation of teacher and learner which distinguishes it from face-to-face lecturing
- influence of an educational organization which distinguishes it from private study
- participation in an industrialized form of education

A fourth characteristic -- use of technical media, usually print, to unite teacher and learner continues to be valid, although print is no longer the only method of delivery

available. The federal Higher Education Act, reauthorized in 1998, expanded its earlier definitions of distance education to include technological advances in delivery systems. The statute defines distance education as an educational process that separates, in time or place, the student and instructor and includes courses offered by computer transmission, television, electronic conferencing, videocassettes or discs, or correspondence (Gladieux & Swail, 1999, 10).

Schweiger (1994, 13) notes that distance education has numerous meanings because the term has been applied to a variety of programs serving numerous audiences via a variety of media. Schwieger's 'numerous meanings' is reflected in the literature's[12] use of terminology. This terminology reflects the role that campus-wide or wide-area information systems play as essential components of the distance education environment. For instance, 'knowledge media' refers to the capturing, storing, imparting, sharing, accessing and creation of knowledge, and includes the convergence of telecommunications, computing, and the learning or cognitive sciences. A term relevant to information management is 'informatics.' Informatics refers to repositories or maintainers of organized information such as library online public access catalogs, full-text databases, or document delivery systems.

A number of terms, for example, may be used to refer to the process of teaching and learning. They include distance education, distance learning, distributed learning, guided study/learning, facilitated instruction and distance teaching. Furthermore, the distance education 'student' is now the 'distance learner'. Finally, a variety of terms such

[12] See, for example, Gelman-Danley, 1997, 73; Hopey & Ginsburg, 1996, 2; Kerka, 1996 np; Phipps, Wellman, and Merisotis, 1998, np; Willis, 1993, np; Zhang, 1998, np.

as open, electronic, or virtual campus may be used to describe institutions and/or programs.

Porter's (1997, xv) preference for the term 'distance learning' over 'distance education' demonstrates an awareness of the changes in student characteristics as well as student motivation for enrolling in distance education programs. The author believes that distance learning indicates instruction for both education and training. Porter defines education as including elementary and secondary programs, continuing education and noncredit programs, and public and private colleges and universities. According to Porter, it also refers to traditional courses offered by accredited or licensed institutions. However, Porter contends that education includes theoretical as well as application-based information.

In contrast, Porter sees training as skill development and knowledge geared toward practical applications although the training may be offered by traditional educational institutions. The author notes that training is also the province of private vendors and in-house training departments. Porter continues the discussion by explaining that distance learning involves both education and training; the emphasis varies with the types of courses being offered. Porter's (xvi) choice of terminology includes the preferred use of distance learner (the author recognizes the learner "may not actually learn anything") in order to emphasize the lifelong nature and importance of education and training.

COMPARISON OF CLASSROOM-BASED AND DISTANCE EDUCATION

In Porter's (1997, xv-xvi) comparison of the terms 'distance learning' and 'distance education,' the author indicates a preference for the term distance learning rather than distance education, noting that distance learning indicates instruction for both education and training. Porter defines education as including elementary and secondary programs, continuing education and noncredit programs, and public and private colleges and universities. According to Porter, education includes theoretical as well as application-based information and, in the author's opinion, refers to traditional courses offered by accredited or licensed institutions.

Laffey & Singer (1997, 357) describe traditional classroom education as a closed or fixed system. A teacher usually stands at the front of a classroom, lecturing to students. Schweiger (1994, 23) explains that conventional classroom instruction is face-to-face instruction essentially based on the Socratic method. The classroom is usually situated in a collegial campus setting, and surrounded by such learning support structures as libraries, laboratories, and extra-curricular lectures and cultural activities (Schweiger, 1994, ii, 101).

Lehman (1995, 149) lists the following characteristics of conventional education:

- students travel to class site
- class times and schedule are fixed
- there are live, interpersonal interactions
- content delivery occurs via lectures, class discussion, laboratories, readings, etc.
- class discussions are limited in time and may be dominated by a few individuals

- unless recorded, class sessions are inaccessible after they have occurred
- access to instructor occurs in class, via office hours, etc.
- students interact with one another inside and outside of class
- assignments and examinations are submitted in person

Laffey & Singer (1997, 357), explain that, in classroom-based education, understanding and competency are bound to subject matters which are presented by teachers and textbooks and acquired by students. The authors note that assessment is simply matching how well the students' representation matches that of the teachers and that the student is often tested on recall or recognition.

Phipps, et al. (1998, 24), compare distance learning settings with traditional institution environments and show there is a difference in mission and focus. For example, in distance education, there is a focus on the student as a client of the organization. Secondly, there is less control by faculty over curriculum, and institutions may use either pre-packaged courses or rely on part-time faculty. Further, there is less emphasis on process and program delivery is assessment or outcome driven. Finally, many programs contract for services not directly related to the teaching/learning process.

Distance Education - Social Experience

Repman and Logan (1996, 35) state that learning is not merely a cognitive phenomenon. It is a social phenomenon as well. In distance education, the student is removed in space and/or time from the instructor and the institution (Schlosser & Anderson, 1994, 1). Keegan (1980, 19) states that distance education differs radically

from conventional teaching because interpersonal communication is absent, teaching becomes institutionalized, and personality needs to be played down and idiosyncrasies eliminated.

Education is based on interpersonal communication and governed by the rules of personal interaction. Repman and Logan (1996, 35-38) identify four types of interactions that take place in distance learning environments: learner-content, learner-learner, learner-interface, and learner-instructor.

Learner-content interaction. Repman and Logan describe learner-content interaction as the interaction between the learner and the information presented that should lead to knowledge acquisition. This interaction relies on the knowledge base the learner has built from prior learning experiences and on the ability of the learner to interact with the content presented.

Learner-Learner interaction. Repman and Logan (1996, 37) explain that interactions lie at the heart of any learning situation and remain critical to active learning. Willis (1992, np) asserts that some students will learn more easily in group settings, while others will excel when working independently. In contrast, Repman and Logan (1996, 37) contend that students interacting with other students increase their participation and enhance their motivation and learning.

Learner-interface interaction. The learner-interface interaction refers to the ability to make the technology transparent for the student (Repman & Logan, 1996, 37). Willis (1992, np) stresses the need for developing strategies to anticipate and meet students' technology-related needs and concerns. According to Willis, students require assistance

so that they can become familiar and comfortable with the delivery of technology and be prepared to resolve technical problems that may occur.

Learner-instructor interaction. Learner-instructor interaction is dependent upon the ability of the learner and the instructor to communicate (Repman & Logan, 1996, 36; Willis, 1992, np). Repman and Logan explain that students may hesitate to interact with the instructor at a distance and may be unsure of how proficient they can become at communicating at a distance -- whether that communication is oral or written. Therefore, students who become comfortable with interacting with the instructor at a distance also become risk-takers by acknowledging that things may not be totally clear or that they have important questions about a topic.

Lewis, Whitaker and Julian (1995, 26) state that one of the keys to understanding the current direction of developments in education, including distance education, is in the changing focus from teacher-directed to student in control of the learning process. Repman and Logan (1996, 36) note that in a learner-centered environment the instructor's role has changed from 'sage on the stage' to 'the guide on the side'. The interaction allows students to play a role in setting learning goals for themselves.

Distance Education - Learning Process

The distance learner's role as director of the learning process differs significantly from that of a student in conventional education. The learner is responsible for initiating and maintaining the learning process (Keegan, 1980, 26; Morris, 1995, 56). Kerka (1998, np) describes learning as a matter of individual interpretation of experiences, but notes that it takes place within the social context. Kerka (1998, np) identifies three types of learning, or ways that experience is transformed into expertise: (1) trial and error, (2)

observing an experienced person and (3) guided learning. In a distance learning environment, instructors do not provide all the knowledge and content to passive learners but rather empower, guide and challenge learners to make sense of their world (Kerka, 1996, np). Thus, advanced skills are acquired not through the transmission of facts but through the learner interacting with the instructor, other students, course content and technology.

Types of Distance Learners. Porter (1997, xv-xvi) explains distance learning indicates instruction for both education and training and that replacing 'student' with 'distance learner' emphasizes the lifelong nature and importance of education and training. Porter's preferences are reflective of the types of students that enroll in distance education courses or programs. Distance education providers are faced with two types of learner. The first type of learner seeks to acquire knowledge and skills and requires certified proof of that learning in the form of credits, certificates, diplomas or degrees. The second type of learner seeks to acquire knowledge and skills without the need for formal proof (Schweiger, 1994, 127).

Distance Learners' Characteristics. The mix of learners is changing from a dominant campus-bound 18 to 24-year-old full-time student body, to one where now nearly half consists of part-time students, life-long learners, and working individuals with just-in-time needs for postsecondary education.[13] Older individuals, especially those who have been in the labor force, tend not to be interested in the type of relationship with a college or university that younger students have traditionally had (Schweiger, 1994, 25). Schweiger (1994, 25) explains that they tend to favor the same type of relationship they

have with other providers of services. First they want service, then they want convenient access, they want flexibility, they want value for their money and they want affordable prices. They tend to have little institutional loyalty, and they are not interested in the lure of campus life.

Distance learning students are usually motivated, self-disciplined and mature adult learners with working experience. Secondly, they usually have good verbal skills and more than half has some college education.[14] Finally, they have a preference for doing as opposed to watching, hearing, and/or reading, a need for real-world relevance of instruction, an insistence on skill-learning, an insistence upon a fair amount of control over learning activities and situations, and place emphasis on learning for qualifications.

DISTANCE EDUCATION AND PUBLIC ADMINISTRATION

Throughout the world, distance learning is becoming an important part of governmental strategies to educate large numbers of individuals conveniently, rapidly, and efficiently (Schweiger, 1994, 32). The literature[15] identifies a number of internal and external forces behind the development of alternative learning contexts:

- the democratization of postsecondary education during the second half of this century
- a movement toward almost universal access to admission to the nation's colleges and universities
- increasingly knowledge-based and technologically sophisticated economies
- societal demands for knowledge and skills to enter and stay competitive in the modern labor market

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[13] See, for example, Morris, 1994, 56; Parrot, 1995, np; Schweiger, 1994, 23
[14] See, for example, Keegan, 1980, 26; Morris, 1995, 56; Rossman, 1992, 116; Zhang, 1998, np
[15] See, for example, Morris, 1994, 53-57; Schweiger, 1994, 1; Stallings, 1997, 27

- increasing enrollments
- the demands, expectations and needs of an ever more diverse student body and new types of student population
- inadequate financial resources to support, let alone expand the postsecondary infrastructure
- the expectations of consumers of education that have become accustomed to the benefits new technologies provide in their daily lives

Federal and State Regulatory Agencies. In American higher education, external systems of quality assurance are shared between governments and higher education. Federal review is required of all institutions that participate in Title IV financial aid programs (Phipps et al., 1998, 31). State higher education regulatory agencies are also responsible for ensuring that citizens of their states have access to quality education (Johnstone & Krauth, 1996, 39). The Texas Education Code[16] authorizes the Texas Higher Education Coordinating Board (Coordinating Board) to adopt policies, enact regulations and establish rules for public community/junior or technical colleges for the delivery of courses and programs out-of-district, out-of-state, and out-of-country. The Coordinating Board's Administrative Rules[17] provide rules and regulations for public community/junior colleges for the delivery of courses and programs via instructional telecommunications or to locations out-of-district, out-of-state, and out-of-country.

Some federal and state laws make no differentiation between on-campus learners and distant learners. For example, the Texas Academic Skills Program (TASP -- Texas Education Code 51.306) applies to both and the attendant directives to institutions and

[17] Ch. 9, Subch. I, Sec. 9.161

requirements for students must be met irrespective of the location of the student (*Master Plan*).

Postsecondary and Program Accrediting Agencies. Postsecondary education has, to a significant degree, regulated itself through regional higher education accrediting associations and through discipline-specific associations (Schweiger, 1994, 70). Accreditation is perceived as a guarantee of minimum quality of the education provider, and for a significant number of the professions, having received the credential from an accredited provider assures automatic licensing or admission to practice (Schweiger, 1994, 87). Texas colleges and universities are members of the Southern Association for Colleges and Schools (SACS) and are accredited through the agency's Commission on Colleges.

Accrediting agencies review programmatic, academic, and content quality (Phipps, et al., 1998, 31; Schweiger, 1994, 87). In judging the acceptability of a distance education program, state higher education authorization agencies and accreditation organizations may assess the degree to which these services are provided as well as the appropriateness of the delivery system (Levine, 1993, 53-58). All of these services must be consonant with and supportive of the central institution's philosophy and goals and must be closely coordinated with the total mission of the distance education program (Levine, 1993, 53-58).

In 1985, the Council on Postsecondary Accreditation (COPA) and the State Higher Education Executive Officers produced a study designed to provide suggestions for guidelines and oversight of distance learning. However, national guidelines for accrediting agencies did not follow for several years. In 1993, the Commission on

Recognition of Postsecondary Accreditation followed the COPA Project. The Council for Higher Education Accreditation (CHEA) was established in 1996 (Gelman-Danley, 1997, 74). CHEA (<http://www.chea.org>), a non-profit organization of colleges and universities oversees all regional accrediting agencies and reviews all accreditation standards.

Gelman-Danley (1997, 80) explains that the concern over accreditation and providing standards for distance education programs is due to an early perception that distance education courses are somehow inferior to traditional classroom-based courses. The American Council on Education (ACE) introduced the *Guiding Principles for Distance Learning in a Learning Society (Guidelines for Distance Learning)* in May 1996. The *Guidelines for Distance Learning* identify four key issues – the impact of technology advances, quality assurance, student-centered programs, and core values in a learning society. Central areas of concern defined and described include the context for learning, support for learners, organizational commitment, outcomes assessment, and the planning and infrastructure needed to support distance learning programs (Gelman-Danley, 1997, 80).

According to Gelman-Danley, the *Principles of Good Practice for Electronically Delivered Academic Degree and Certificate Programs*, developed by the Western Cooperative for Educational Telecommunications of the Western Cooperative for Higher Education were a response to higher education's quickened rate of adding programs offered through distance learning.

Gelman-Danley continues by explaining that the *Principles of Good Practice* include sections on curriculum and instruction that outline programs of study to include

outcomes, coherence, completion, alternate delivery times, interaction, and faculty oversight. In addition, the *Principles of Good Practice* note the importance of placing distance education program within the context of institutional role and mission. The *Principles of Good Practice* emphasize the need for faculty support and training, support resources, timely and adequate student support services, marketing efforts, and assessment. Finally, the *Principles of Good Practice* reinforce the need for institutions to commit the support of faculty, finances and technical resources. The author (1997, 80) notes that the key difference between the *Principles of Good Practice* and ACE's *Guidelines for Distance Learning* is the *Guidelines'* emphasis on core values.

SACS has clearly defined guidelines for distance learning (Gelman-Danley, 1997, 78).[18] All seven regional accrediting agencies in the United States, including SACS, have endorsed the *Principles of Good Practice*. Furthermore, the Coordinating Board's 1998 *Status Report* explains that in recent year the Board took steps to help ensure high-quality distance education programs by adopting the *Principles of Good Practice for Electronically Offered Academic Degree and Certificate Programs*.

Benefits and Challenges

Distance education can provide an expedient, cost-effective and equitable way to respond to the need for equitable access to a reasonably full range of programs (Schweiger, 1994, v). The Coordinating Board's 1998 *Status Report* states that studies indicate that distance education, when appropriately designed and conscientiously

[18] Chapters 3 and 4 discuss specific components of SACS criteria for distance learning.

practiced by the provider and responsibly pursued by the learner, can be at least as effective as traditional classroom instruction for many types of learning.

Access. Gellman-Danley (1997, 73) states that the founding premise of community colleges is access and that distance learning expands the traditional definition of access. The *Status Report* notes that distance education provides the potential for access to high quality academic programs and top faculty throughout the state. Parrot (1995, np) provides a cautionary note that access to education for those who do not attend classes on campus can be a question of their access to technology, i.e., the higher or more exotic the technology, the fewer the students who have means to use it. Parrot's concern about access is closely tied to the issue of educational equity and Parrot warns that institutions need to closely monitor distance education's affect on access and student learning.

Equity. The issue of educational equity surfaces as one explores the use of media in instruction (Green, 1993, 4). Kerka (1996, np) notes that equity is often mentioned as a benefit of online learning. The author explains that the relative anonymity of computer communication has the potential to give voice to those reluctant to speak in face-to-face situations and to allow learners' contributions to be judged on their own merit, unaffected by any obvious visual cultural markers.

Parrot (1995, np) agrees that distance education offers an alternative to the traditional classroom that accommodates many students' individual circumstances and educational needs. Yet, Parrot along with Lewis et al. (1995, 26), caution education providers that low-income, minority, and underrepresented students are likely to be among those who may not have access to the technology or have the technological

experience necessary to take advantage of distance education courses. The authors contend there may be a division between the have's or technology rich and the have-not's, or the technology poor. Willis (1992, np) states that the challenges posed by distance teaching are countered by opportunities to

- reach a wider student audience
- meet the needs of students who are unable to attend on-campus classes
- involve outside speakers who would otherwise be unavailable
- link students form different social, cultural, economic, and experiential backgrounds.

SUMMARY

Postsecondary distance education has been available in the United States since the late 1800s. This chapter compared traditional classroom environments with distance education settings and presented a number of attributes unique to distance education. Characteristics that distinguish distance education from traditional programs include the separation of teaching and student, the use of some type of technology to facilitate communication, and the learner's role as director of the learning process.

In the United States, distance education changed very little during the first half of the twentieth century. The teaching and learning process consisted primarily of correspondence study, home study and independent study through the 1920s. However, when new technology was introduced, education made creative use of advances such as satellite communication, closed circuit television, and film and video. These methods of delivery facilitated the learning process and provided new, more immediate means of communication between the teacher and student.

In this chapter, it was discovered that changing technology is only one of a number of elements that has influenced the recent growth and change in distance education. Distance learning is becoming an important part of governmental strategies to educate large numbers of individuals conveniently, rapidly and efficiently. Governmental agencies and educational institutions recognize that distance education can provide an expedient, cost-effective and equitable way to provide access to a wide range of programs. Furthermore, the mix of learners is changing from an 18 to 24-year-old full-time student body, to one where now nearly half consists of part-time students, life-long learners and working individuals with just-in-time needs for postsecondary education. Finally, the introduction of the Internet and the World Wide Web in the 1990s had a significant impact on the delivery of distance education and the structuring of learning materials. These factors contribute to a shift in educational providers' focus from teacher-directed to student-directed learning.

This chapter also shows that, in today's educational environment, distance learning indicates instruction for both education and training. Consequently, educators emphasize the lifelong nature and importance of education. As a result, a distance education program's success is dependent on organizational structures established to enable a diverse group of learners to interact comfortably from a distance with more than one instructor, other learners and extensive accessible resources. Student support services that provide effective interaction and feedback are a significant component of the organizational structure and facilitate the distance learner's role as director of the learning process.

The next chapter, Chapter 3, discusses the organizational structure of postsecondary education and identifies the administrative and management components of a postsecondary distance education program. Chapter 4 identifies the elements of student support services that contribute to a successful distance learning experience.

Chapter 3 - Postsecondary Distance Education

Statement of Purpose

The definitions of distance education summarized in Chapter 2 show the influence of technological advances, changes in institutional purpose for offering distance education, and the growing acceptance of distance education as a legitimate form of education. Early and contemporary definitions of distance education share several common attributes:

- the separation in time/space of instructor and student
- use of technology to link learning materials and student
- limited personal interaction between instructor- student and learner-learner
- student as director of the learning process

This chapter focuses on the educational organization and the use of technical media to facilitate communication and interaction in a distance learning environment. Secondly, this chapter summarizes literature about administrative and management concerns such as policy and structure, faculty and support staff, and developing and maintaining an institutional Web presence. The discussion on administrative policy and structure also describes institutional participation in consortia or collaborative relationships and contracted or brokered arrangements. Finally, this chapter identifies types of technical media and describes methods of interaction and systems of delivery utilized by distance education programs.

ADMINISTRATION AND MANAGEMENT

Chapter 2 compared the teaching and learning process in traditional campus-based education with teaching and learning in a distance education setting. Traditional classroom education is described as a closed or fixed system where a teacher generally stands at the front of a classroom, lecturing to students. In traditional education, the classroom is customarily situated in a collegial campus setting, and surrounded by such learning support structures as libraries, laboratories, and extra-curricular lectures and cultural activities. Secondly, students travel to the class site, class times and schedules are fixed and content delivery occurs via lectures, class discussion, laboratories, readings, etc. Consequently, unless class sessions are recorded, they are inaccessible after they have occurred. Finally, the traditional classroom teaching and learning process is based on interpersonal communication and governed by the rules of personal interaction.

Chapter 2 also provided the following distinguishing characteristics of distance education: (1) the distance learner is removed in space and/or time from the instructor and the institution, (2) instructors do not provide all the knowledge and content to passive learners, and (3) the student is responsible for initiating and maintaining the learning process. It was discovered that four types of interactions take place in distance learning environments: learner-content, learner-learner, learner-interface and learner-instructor. Thus, advanced skills are acquired through the learner's interaction with the instructor, other students, course content and technology.

Comparisons of traditional and distance education in Chapter 2 indicate that there is less control by faculty over the distance education curriculum and that institutions

often use either pre-packaged courses or rely on part-time faculty. In addition, there is less emphasis on process and program delivery is assessment or outcome driven. Finally, many programs contract for services not directly related to the teaching/learning process.

Organizational structure

As colleges and universities move to make programs available beyond their campuses, they are pressured to rethink the role of technology and to develop policies that address issues such as instructional design, faculty-student interaction and student support services (Johnstone & Krauth, 1996, 41). Keegan (1980, 26) explains that if an administrator considers that distance education is similar to conventional education the administrative structures will not be developed to cope with it. Phipps, Wellman, and Merisotis (1998, ix) describe four basic patterns to organizational structures and approaches used by postsecondary providers of distance learning: (1) technology-assisted instruction, (2) consortia or collaboratives, (3) contracted or brokered arrangements and (4) virtual universities.

Technology-assisted Instruction. The vast majority of institutions offering distance learning are traditional colleges and universities with on-campus students. In addition to traditional classroom instruction, the institutions provide some distance learning courses or operate distance education programs. The first pattern of organizational structure, technology-assisted instruction, is both a pedagogical enhancement to the regular curriculum and a way to facilitate access to students who either cannot or choose not to enroll in traditional classes (Phipps, et al., 1998, ix). Technology-assisted instruction consists of five models of education based on the way students learning is linked to the learning strategies developed by the institution (Keegan,

1980, 12-18). They are (1) technologically replicated conventional classroom, (2) correspondence school, (3) consultation, (4) multi-media, and (5) integrated.

The technologically-replicated conventional classroom model of technology-assisted instruction uses technology to replicate the conventional classroom environment (Schweiger, 1994, 48). According to Schweiger (1994, 48), research has shown that distance education in an extend-the-classroom approach is one of the more effective ways to provide access to diverse learners who are place bound, bound by distances or bound by economic efficiencies or policies. The lecture is transmitted over airways, cable, microwave, fiber optic cable, phone lines, or satellite up-and downlinks. These programs rely heavily on printed materials and on the host institution for both the delivery of services and the management of instruction. Broadcast times are set and learners must be available at those times or miss instruction.

Lewis, Whitaker and Julian (1995, 15-16) maintain that distance education has gone through a number of stages characterized by changes in the modes of delivery and development and changes in the implied educational model of learning. One of these modes of delivery, tele-learning, uses videoconferencing to extend and reproduce the environment of the classroom. According to the authors, content and management of instruction are, in a sense, returned to the instructor. Lewis, et al., point out that, while students forego the benefits of studying at their own time and pace, the model provides an opportunity for student-student interaction and some degree of spontaneity.

The correspondence school model is the second model of technology-assisted instruction. In this model, correspondence schools send learning materials by mail to the student. The student studies the materials and mails them back to the institution. The

institution reviews the student's work, marks materials with comments and returns them by mail. Finally, the student studies the comments, completes the next assignment, and the process is repeated (Keegan, 1980, 12). The correspondence school model is teacher-directed with minimum interaction between teacher and student. This model served as the basis for televised instruction in the 1980s (Lewis, et al., 1992, 14).

In the third model of technology-assisted instruction, the consultation model, the correspondence element is significantly reduced and emphasis is placed on compulsory attendance at seminars or consultations (Keegan, 1980, 13). Once the learning materials are developed and distributed to the students, the system relies heavily on private study, with motivation, clarification and evaluation provided by the seminars (Keegan, 1980, 14). This model suggests that distance education should move as little as possible away from conventional, lecture-room teaching if it wants to provide the climate for a successful educational program.

The multi-media model, the fourth model of technology-assisted instruction, uses print, audio, video, and computer-based instruction (CBI) to provide a consistent, stable structure that will act as a link between learning and learning materials (Keegan, 1980, 16; Lewis, et al., 1995, 15). The student is supported by a wide range of activities, many of them optional, in an effort to maximize student interaction, achieve a satisfactory educational experience and prevent dropout. Many providers state that retention rates are satisfactory and indicate that the student who graduates with a degree has achieved a standard similar to that achieved by students on-site (Keegan, 1980, 16; Lewis, et al., 1995, 15).

Khan (1997, 6) describes the Web's ability to combine print, audio, and video-based resources with computer-based instruction as an innovative approach for delivering instruction to a remote audience. Thus, the Internet and the World Wide Web enable the multi-media model of distance education to provide a more immediate, personal, and efficient learning experience than traditional print-based media does. According to Khan web-based instruction (WBI) utilizes the attributes and resources of the World Wide Web, enabling an organization to create a meaningful learning environment where learning is fostered and supported. Consequently, the Web makes it possible for an institution to create cohesive learning communities where new information can be linked to relevant real-world experiences (Price, 1996, 43).

In the integrated model, the fifth model of technology-assisted instruction, external and internal teaching are integrated. The same staff teach and assess both sets of students, who are enrolled in the same courses, take the same examinations and qualify for the same degrees and diplomas (Keegan, 1980, 15; Schweiger, 1994, 48).

Consortia or collaboratives. While some colleges and universities are developing their own distance education capacities by utilizing technology-assisted instruction, other institutions opt for a different organizational structure or approach. Many colleges and universities elect to provide distance education by combining their efforts in cooperative ventures or working within consortia or collaboratives (Schweiger, 1994, 45-46).

Phipps, et al. (1998, ix), explain that consortia or collaboratives are cooperative pooling and sharing arrangements among institutions, where several colleges and universities join together through a statewide or regional network to offer distance

learning programs. The authority to award degrees or credits is retained by the institutions and does not shift to the cooperative or consortia. Levine (1992, 26) contends that consortia of institutions have been organized for a variety of purposes in higher education. Levine believes that consortia offer a number of advantages to institutions.

- Members may be able to license instructional material for lower fees than a single institution would pay.
- Members may jointly fund a professional to represent them before state and federal agencies and boards, including legislatures.
- The consortium may apply for grants that would benefit all members.
- Individual members might specialize in certain functions needed by all, such as researching the latest advances in distance learning technologies, evaluation services, materials duplication, training faculty in the use of new technology.

The Southern Association of Colleges and Schools' (SACS) *Criteria for Accreditation 4.9.1 Consortial Relationships* require member institutions enter consortial relationships only with regionally accredited institutions offering degrees or certificates at the same level. The *Criteria* also require that educational courses and programs offered be related to the teaching purpose of the institution.

Although Texas colleges and universities participate in several consortial or collaborative partnerships, the state does not provide an 'overarching umbrella' that brings together all the distance education programs available in the state (Alofsin, 1998, 8). The Coordinating Board's 'Texas Colleges on Line' provides Web links to all colleges and universities that offer electronic courses, as well as individual programs provided by Texas community colleges and the University of Texas UT TeleCampus. The TeleCampus is described as a coordinated, 'one-stop shopping' distance learning

Internet website for the UT System's academic and medical components (Alofsin, 1998, 8).

A number of Texas colleges and universities are members of the Electronic Campus of the Southern Regional Education Board (SREB), which serves as a 'marketplace' for programs offered through electronic methods by colleges and universities in 16 southern states. The SREB is an interstate compact for education, created in 1948 by Southern governors and legislators (<http://www.srec.sreb.org/>).

Two recent ventures are the state's membership in WGU, the Western Governors University and the Virtual College of Texas (VCT). Texas has signed a Memorandum of Understanding to participate in WGU, a virtual university, and the Dallas County Community College District was designated by Gov. George W. Bush to pilot the project in Texas (Alofsin, 1998, 7). The VCT, established in 1998 by the Texas Association of Community Colleges, is targeting citizens within any community college service area (Smith, 1998, np). The Texas Association of Community Colleges describes The Virtual College of Texas as a consortium of all accredited, public Texas community and technical colleges. It includes 50 community college districts and the three colleges of the Texas State Technical College system.

Contracted or brokered arrangements. The third pattern of organizational structure for postsecondary distance education is contracted or brokered arrangements. Phipps, et al. (1998, ix) describe contracted or brokered arrangements as configurations of institutions, faculty, or other providers brought together solely for the purpose of delivering distance learning. In contrast to consortia or collaboratives, in contracted

arrangements the degree or certificate authority rests with the contracting or organizing entity, not with the originating institution.

Learning networks are a form of contracted or brokered arrangements that focus on creating learning opportunities and on individualized learning. Learning networks build on operational principles of structuring learning packages and learning plans. The networking arrangements also develop a support mechanism of course resource persons and strategically located regional support sites (Schweiger, 1994, 61). Schweiger (1994, 61) explains that, in this model, for the production of learning materials, the immediate provider of postsecondary education services serves more as a broker than producer. The broker will network, manage and coordinate the courses and programs for participating postsecondary education providers.

Virtual Universities. The fourth pattern of organizational structure is the virtual university. Shimabukuro (1995, 47-48) explains that the notion of a college as a geographical entity may become obsolete. Entire institutions could exist in virtual reality, defined by an electronic address. The campus may house conferencing facilities, but the traditional classroom will have all but disappeared. The campus' primary function will be to serve as the geographical base for the mainframe or system that functions as the network server. Alofsin (1998, 7) describes Western Governors University (WGU) as a virtual university that will have no faculty and courses, and will grant degrees based on competence and learning outcomes rather than traditional credit hours. The Western Governor's University will broker programs and courses supplied by both traditional institutions and such nontraditional educational providers as corporations that train their employees for specific skills.

Rossman (1992, 111) explains that it is important not to confuse the electronic student with the global student. Shimabukuro (1995, 47-48) predicts the advent of a virtual, global-access network (GAN) classroom, created when the virtual university gathers students and faculty from locations around the world. In Shimabukuro's example, the college campus will no longer be the focal point of the teaching and learning process, and instructors will work out of home offices, often far removed from the physical campus.

Administrative Policies

A comparison of distance learning settings with traditional classroom environments shows there is a difference in mission and focus. Typically, distance education focuses on the student as a client of the organization. Gellman-Danley and Fetzner (1998, np) state that policies can provide a framework for operation, an agreed upon set of rules that explain all participants' roles and responsibilities.

Schweiger (1994, 21) explains that, when the educational provider is a conventional college or university, the furnisher of distance education tends to be most commonly an operational unit of the college's or university's extension division. The *Principles of Good Practice for Electronically Offered Academic Degree and Certificate Programs* require that the role and mission of a distance learning program be consistent with the institution's role and mission (Western Cooperative, 1997, 6-7). Levine (1992, 21) believes that an institution must define and clearly articulate the organization's mission, philosophy, goals, and general intent before developing a distance education program, and that the program's mission statement must clearly complement the institutional mission.

Consequently, the operational unit is induced to design its programs and support services within the framework of the college or university's priorities. If the operational unit fails to respond adequately to the needs of either, its very existence is at stake; it will either have no students, or it will lose the crucial support of the institution's majority population.

Faculty and Support Staff

The separation of instructor and student in time/space is a unique characteristic of distance learning. In traditional campus-based instruction, faculty functions usually include curriculum design/oversight, instructional delivery, developmental advising, assessment of student performance, and academic planning and coordination (Phipps, et al., 1998, np). However, in distance education, the size, role and composition of distance education faculty may differ substantially (Schweiger, 1994, 57-8). In addition to a graduate degree in the field of instruction, faculty are expected to understand the role of technology in a learning environment, be trained in online teaching concepts, and use assessment techniques appropriately (Phipps, et al., 1998, np; Schlosser & Anderson, 1994, 34).

The literature[19] defines two roles for faculty in a distance education environment. In the first, the instructor continues to provide traditional classroom-based instruction and utilizes technology to facilitate communication with the distance learner. In the second, the distance education program relies on the talents and efforts of teams and the instructor's role changes from individual to team member.

[19] See, for example, Parisot, 1997, 5-13; Phipps, 1998, np; Schlosser & Anderson, 1994, 34; Sherry & Wilson, 1997, 67-75; Schweiger, 1994, 58

Technology-assisted instruction is one of four patterns of organizational structure utilized by postsecondary distance education providers. Parisot (1997, 9) explains that, in this type of organizational structure, the technology is interposed between student and teacher and between student and student. Therefore, the need to collaborate with technicians and program administrators might affect a teacher's perception of autonomy and teaching style. Instructors accustomed to providing a more traditional model of education find that they are required to change their method of teaching and give more attention to advanced preparation, student interaction, visual materials, activities for independent study, and follow up activities (Schlosser & Anderson, 1994, 34). In addition, instructors no longer have control over the learning process. Therefore, in distance education, the instructor's role changes from director to facilitator of the learning process (Sherry & Wilson, 1997, 68).

In traditional education, teaching is usually an individual activity. However, Schlosser and Anderson (1994, 34) point out that the successful operation of a distance education program requires the knowledge, talents and cooperation of a great number of individuals. In distance education, the development, design and implementation of instructional materials are often based on the industrial model of production, a key aspect of Peters' definition of distance education (Keegan, 1994, 204). In Keegan's translation of Peters' research (1994, 205), the author explains that the industrial model of teaching and learning is characterized by a division of labor (on the side of the teachers). Other aspects of the industrial model include mechanization, automation, application of organizational principles, scientific control, objectivity of teaching behavior, mass

production, concentration and centralization. Thus, in distance education programs, the individual instructor often becomes a member of a team.

Schlosser and Anderson (1994, 34) contend that instructors and support staff must work in concert to produce quality distance educational programming. Schweiger (1994, 58) uses the term ' course resource person' and describes distance learning faculty as the principal resources of learning package development teams. Within this context, faculty's primary function is to plan, implement, and administer programs, and to participate in the preparation of learning packages for the courses which make up the programs (Phipps, et. al, 1998, np). Furthermore, in many distance education programs, instructors do not teach in the traditional sense. In addition to the curriculum development team, a communications team may be responsible for linking learning materials to students and managing communication between instructors and students, as well as among students (Schweiger, 1994, 58). Schlosser & Anderson define the role of a facilitator/monitor as one where the instructor (or other staff member) is responsible for operation of equipment and answering questions when necessary.

METHODS OF INTERACTION AND SYSTEMS OF DELIVERY

Education is based on interpersonal communication and governed by the rules of personal interaction. Repman and Logan (1996, 37) explain that interactions lie at the heart of any learning situation and remain critical to active learning. The separation of instructor and student distinguishes distance education from all forms of conventional, face-to-face, direct teaching and learning. Thus, it is necessary to replace the interpersonal communication and interaction of conventional education by a variety of

mechanical or technological means of communication.[20] Zhang (1998, np) stresses that the important point is not merely to use technologies to connect people, but to maximize social interaction.

Chapter 2 identified four types of interaction in distance learning environments: learner-content, learner-instructor, learner-learner and learner-interface. Learner-content interaction is the interaction between the learner and instructional materials. This interaction leads to knowledge acquisition and relies on the knowledge base the learner has built from prior learning experiences and on the ability of the learner to interact with the content presented. Furthermore, learner-instructor interaction is dependent upon the ability of the learner and the instructor to communicate. Finally, learner-interface interaction refers to the ability to make the technology transparent for the student.

The Southern Association for Colleges and Schools' *Criteria for Accreditation*[21] provides a definition of technology resources that includes computer hardware and software, databases, and communications networks. The literature[22] identifies a wide range of technology-based alternatives to institutional-based services. Case studies offer anecdotal evidence of distance education programs that have successfully integrated computer and audio conferencing, fax, voice-mail, audiographics, videotapes, videodisks, audio cassette tapes, video presentations, television broadcasts and the more familiar telephone and print-based materials into the teaching and learning process.

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[20] See , for example, Keegan, 1980, 25; Green, 1993, 4; Parrot, 1995, np

[21] *Section 5.3. Information Technology–Resources and Systems.*

[22] See, for example, Berge & Collins, 1995, 2; Hopey & Ginsburg, 1996, 22; Kerka, 1996, np; Lehman, 1995, 147-149; Levine, 1992, 53-58; MacBrayne & Russo, 1995, 165-170; Maddux & Johnson, 1997, 7-9; Phipps, et al., 1998, 5, 19; Price, 1995, 40; Smith, 1998, np; Western Cooperative, 1997; Witherspoon, 1997; Zhang, 1998, np

The technologies enable educational support services to adapt effectively to a student's particular learning preference, schedule or special needs. **Asynchronous deliveries,** for example, e-mail or bulletin boards, do not require the simultaneous participation of all students and instructors (Phipps, Welman & Merisotis, 1998, 5). Chat rooms and other **synchronous deliveries** require the simultaneous participation of all students and instructors, allowing for interaction in real-time (Phipps, et al., 1998, 5).[23] Asynchronous and synchronous methods may be used alone or in combination to meet the academic, career, and personal needs of students.[24]

A frequently expressed concern[25] is the need for detailed guides or tutorials to address distance learners' questions about the method of delivery, the type of technology, or required technology-related skills. Willis (1992, np) stresses the need for developing strategies to anticipate and meet students' technology-related needs and concerns. According to Willis, students require assistance so that they can become familiar and comfortable with the delivery of technology and be prepared to resolve technical problems that will arise.

Step-by-step instructions for effectively using the technology tools are helpful. Log-on information, telephone numbers, listing the hours technical staff are available and equipment requirements should be provided on-line and in print and made available to the student prior to enrollment. Some students may find it helpful to practice sending and

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[23] The Glossary provides definitions and descriptions of selected technologies.
[24] See, for example, MacBrayne & Russo, 1995, 170; Lewis, et al., 1995, 15; Parrot, np; Smith, 1998, np
[25] See, for example, Berge & Collins, 1995, 2; Hopey & Ginsburg, 1996, 22; Kerka, 1996, np; Lehman, 1995, -149; Levine, 1992, 53-58; MacBrayne & Russo, 1995, 165-170; Maddux & Johnson, 1997, 7-9; Phipps, et al., 1998, 5, 19; Price, 1995, 40; Smith, 1998, np; Western Cooperative, 1997; Witherspoon, 1997; Zhang, 1998, np

receiving files. The *Criteria for Accreditation* emphasize that, when an institution provides technology resources, it must also provide a trained technical and user services staff.

SACS's *Criteria for Accreditation Section 4.4 Publications* explains that an institution must make available to students and the public accurate catalogs, official publications and other information about attending or withdrawing from the institution. The *Principles of Good Practice* (Western Cooperative, 1997, 7) explain that a quality distance learning program provides students with clear, complete, and timely information on the curriculum, course and degree requirements. A successful program also provides information about the nature of faculty/student interaction, assumptions about technological competence and skills, technical equipment requirements, availability of academic support services, and financial aid resources, and costs and payment policies.

The Internet and the World Wide Web serve as tremendous resources for educational providers and enable institutions to distribute information worldwide.[26] Although developing and maintaining an institutional Web site is expensive and labor-intensive, a college's Web presence serves a number of beneficial purposes such as

- acting as the first step in developing a technological infrastructure for a distance education program
- expanding the college's boundaries to new student markets
- disseminating information in a format that can be easily and frequently updated
- initiating a pro-active response to competition from other education providers
- increasing opportunities to participate in consortia or collaborative relationships

[26] See, for example, McLellan, 1997, 185; Willis, 1997, 83; Hackbarth, 1997, 192

SUMMARY

It is important that administrators recognize the distinguishing characteristics of distance education and develop administrative structures appropriate for providing quality education at a distance. This chapter explained that distance learning programs are often based on one of four patterns of organizational structures: technology-assisted instruction, consortia or collaboratives, contracted or brokered arrangements and virtual universities. Technology-assisted instruction, is both an enhancement to the regular curriculum and a way to facilitate access to students who either cannot or choose not to enroll in traditional classes. There are five models of technology-assisted instruction based on the way student learning is linked to the learning strategies developed by the institution. The models are technologically replicated conventional classroom, correspondence school, consultation, multi-media, and integrated.

Many colleges and universities elect to provide distance education by working within consortia or collaboratives, cooperative pooling and sharing where several colleges and universities join together through a statewide or regional network to offer distance learning programs. Another option available to postsecondary institutions is a contracted or brokered arrangement, a configuration of institutions, faculty or other providers brought together solely for the purpose of delivering distance learning.

A fourth approach to organizational structure for providing distance education is the virtual university. In this organizational structure, entire institutions exist in virtual reality, defined by an electronic address. Although, the campus may house conferencing

facilities, its primary function will be to serve as the geographical base for the mainframe or system that functions as the network server.

The separation of instructor and student distinguishes distance education from all forms of conventional, face-to-face, direct teaching and learning. This chapter's discussion of the organizational structure shows that changes in technology have had a significant impact on the instructor's role in providing education. In a distance learning environment, the instructor may fill one of two roles in the teaching and learning process. In the first, the instructor continues to provide traditional classroom-based instruction and utilizes technology to facilitate communication with the distance learner. In the second, the distance education program relies on the talents and efforts of teams, and the instructor's role changes from individual to team member. In each role, distance learning instructors no longer have control over the learning process; the role has changed from director to facilitator (Sherry & Wilson, 1997, 68).

This chapter also explained that the separation of teacher and student, along with the shift from teacher-directed to student-directed learning, make it necessary to replace the interpersonal communication and interaction of conventional education by a variety of mechanical or technological means of communication. Postsecondary distance education programs may choose from a variety of technologies to provide support services that facilitate learning and increase interaction and communication. The technologies enable educational services to adapt effectively to a student's particular learning preference, schedule or special needs. Distance education programs have successfully integrated computer and audio conferencing, fax, voice-mail, audiographics, videotapes, videodisks, audio cassette tapes, video presentations, television broadcasts

and the more familiar telephone and print-based materials into the teaching and learning process.

The Internet, and especially its World Wide Web, offers tremendous resources for higher education. Establishing a Web site may be considered an institution's first step in developing a technological infrastructure for a distance education program. In this chapter it was discovered that, although developing and maintaining an institutional Web site is expensive and labor-intensive, a college's Web presence serves a number of beneficial purposes including expanding the college's boundaries, disseminating current information and responding to competitors. An additional benefit is increased opportunities to participate in consortia or collaborative efforts.

A comparison of distance learning with traditional institution environments shows there is a difference in mission and focus, with a focus on the student as a client of the organization. As colleges and universities move to make programs available beyond their campuses, they are pressured to rethink the role of technology and to develop policies relevant to key aspects of the organizational structure such as instructional design, faculty-student interaction and student support services. Chapter 4 discusses student support services. The chapter identifies types of services, such as admissions, assessment, counseling and advising, and learning resources, and summarizes the role each service plays in providing quality distance education.

Chapter 4 – Student Support Services

Statement of Purpose

Student support services are a significant factor in providing a quality distance educational experience. Secondly, as an essential part of the institutional planning process, support services contribute to the achievement of an institution's educational goals. Finally, access to student support services is a critical factor in distance learner success.[27] The Texas Coordinating Board for Higher Education's 1996 *Distance Learning Master Plan* reminds distance education providers they have an obligation to provide students with essential services that support distance learning. The Board explains that the obligation is derived from four sources: 1) appropriate extension of institutional responsibilities to students, 2) the criteria which institutions must meet to obtain or maintain accreditation, 3) the Rules and Regulations of the Texas Higher Education Coordinating Board, and 4) state and federal laws.

This chapter reviews the literature concerning student support services for a postsecondary distance education program. First, this chapter discusses issues relevant to institutional structure and policy. Secondly, this chapter identifies types of support services essential to a successful distance learning experience. Finally, this chapter identifies the methods of interaction or systems of delivery appropriate for providing student support services to the distance learner.

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[27] See, for example, Southern Association for Colleges and Schools. *Criteria for Accreditation. Section 5.4.1. Student Development Services – Scope and Accountability*; Kovel-Jarboe, 1997, 26.

POSTSECONDARY DISTANCE EDUCATION

Chapter 3 found that, when the educational provider is a conventional college or university, an operating unit within the college or university's extension division usually oversees teaching and learning at a distance. It is important that an institution defines and clearly articulates the organization's mission, philosophy, goals and general intent before developing a distance education program. In turn, the distance education program's role and mission must clearly complement and be consistent with the institution's role and mission. Finally, student support services must be consistent with, and supportive of, the central institution's philosophy and goals and closely coordinated with the total mission of the distance education program.

Distance learners may stop participating in course activities or drop out of classes or programs because of the pressures of meeting the challenges of every day life (Perez, 1998, np). Because access to student support services is a critical factor in distance learner success, institutional planning should address support services that may be necessary or appropriate for distant learners. That is, in general, colleges planning distance degree programs must consider that students require a variety of support services. Furthermore, distance learners also need to access services in the same way they access instruction—from a distance and at times that fit their schedules.

The literature[28] explains that student support policies include the entire range of institutional programs and resources that support student learning and personal development. Distance education programs must plan for a variety of concerns such as

[28] See, for example, Gelman-Danley, 1997, 81; Gelman-Danley, 1998, np; Kovel-Jarboe 1997, 26; Levine, 1992, 53-58; MacBrayne & Russo, 1995, 165; Phipps, et al., 1998, np; Schlosser & Anderson, 1994, 38; Spears and Tatroe, 1997, 40.

fairness and equity in admissions; recognition of prior learning; transfer of credits; degree program planning; student orientation regarding the distance education experience; and assessment of students' progress. Services include advising, counseling, libraries, and access to course resources. Additional services are placement testing, program advising, financial aid application assistance, textbook delivery, access to support materials and faculty, and examination proctoring.

STUDENT SUPPORT SERVICES

The objective of support services is to meet student needs inside and outside of the classroom (Kingan & Alfred, 1993, np). Mentors, counselors, instructors, support service specialists, and academic advisors work together to refer students as needed to specific services such as counseling, financial aid or job placement. This connectivity and integration of services enables the distance learner to feel part of the college community while providing access to a network of services and programs that ensures a student successfully meets his or her educational goals.

Information / Technical Support

In a distance education environment, learners may be required to have specific skills to enroll in the program or specific courses. For example, the use of online learning resources requires information management skills -- the ability to go online, retrieve and evaluate information (Lewis, et al., 1995, 27). Secondly, students using electronic resources should be aware of ethical issues such as copyright and intellectual property ownership (Kidder, 1995, 222-7). Finally, distance learners may have concerns about confidentiality and privacy or interacting with students from different cultures when

using e-mail or discussion lists.[29] Consequently, assumptions about technological competence and skills, along with information about communication in a virtual environment, should be clearly stated and available for review prior to enrollment (Johnstone & Krauth, 1996, 40; Lewis, Whitaker & Julian, 1995, 27).

Admissions and Records

Distance learners rely on student support services for providing relevant information prior to enrollment. In postsecondary education, Admissions, a component of student support services, is usually responsible for providing, through publications or personal interaction, information about the institution's programs, admissions policies, financial aid and other support services.[30] In addition, this area of student support services assists students in matching their educational needs, interests and background with programs, requirements and mission of the institution. Admissions also evaluates credentials and assigns credit and helps set enrollment policy and goals in line with the institution's philosophy and mission. Finally, at some institutions, this support area is responsible for coordinating the recruitment efforts for the entire institution.

According to the American Association of Collegiate Registrars and Admissions Officers, the focus of enrollment management is not just on recruiting students for the institution, but on making sure that adequate support services, including financial aid, new student orientation and retention programs, are available. Each activity is a key

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[29] See, for example, Johnstone & Krauth, 1996, 40; Repman & Logan, 1996, 35; Schlosser & Anderson, 1994, 38; Zhang, 1998, np.

[30] See *Considering a Career in Postsecondary Admissions & Records?* Available on the Internet: American Association of Collegiate Registrars and Admissions Officers <http://www.aacrao.org/aboutaacrao-frame.html>

factor in ensuring student retention and a significant contributor to the overall success of the distance learner's educational experience.

A second area of support services, Records, works closely with Admissions. Records is responsible for a number of activities including maintaining students' academic records and reporting grades. Other activities include assessing and collecting tuition and fees, planning and implementing class registration, issuing official transcripts, verifying student enrollment, monitoring the completion of degree requirements, and providing enrollment and demographic statistics for the entire institution.

Credit transfer. Admission requirements assume a certain entry-level assessment based on local regulations (Gellman-Danley, 1998, np). Admissions evaluates academic credentials for students entering the college and assigns credit for prior academic experience, credit earned by advanced placement testing, or other academic/work experience. Students may require assistance from other areas of support services such as academic advising or counseling for advanced placement testing or developing portfolios to demonstrate previous learning and work experience credit (Levine, 1992, 53-58; Schlosser & Anderson, 1994, 42-43).

Students exiting the program and planning to transfer from a two-year college to a four-year college have particularly specific needs for program planning. Students need to know exactly what is required for transfer and what options exist for fulfilling these requirements. Such students may also need to differentiate between requirements for a two-year degree and requirements from transfer to a four-year program (Levine, 1992, 24). Schweiger (1994, 86) notes that the inability to have all earned credits transferred

requires students to repeat courses in subject matter already covered. Consequently, it lengthens the time of study, and it increases the cost of education to students. In the case of publicly funded institutions, it increases also the cost of education to taxpayers (Schweiger, 1994, 86).

Tuition, fees, and financial aid. Students interested in enrolling in a distance education course or program may have questions about the cost of tuition, related fees and financial aid services. The Coordinating Board requires access to financial aid counseling and financial support be available to distant learners without prejudice to their distant status. Furthermore, the Coordinating Board's *Distance Learning Master Plan* states that any supplemental fees charged by institutions for distance learning should be appropriate to the services provided. For example, distant learners should not be charged fees for services that are clearly related only to on-campus activities, programs or services.

An institution's membership in a consortium brings additional concerns regarding tuition and fees – for example, to which institution does the student make payment? In addition, some consortia include colleges with varying tuition rates, which requires either changing to a standard rate, or clearly identifying the tuition variances to learners.

Each of these concerns must be clearly addressed in the information made available to students and the public. Consequently, Admissions must provide, either through its publications or personal interaction, information about the institution's policies concerning tuition and fees, refund policies, and financial aid. In addition, Admissions provides students with information about additional support services relevant to financial aid.

Registration. Students who successfully apply and meet the college's criteria for admissions are eligible to register for classes. At some colleges, the registrar's office, a component of student support services handles registration for both on-campus and distance learning courses. The registration process can smooth the entry of distance learning students to the college or act as a barrier (Levine, 1992, 53-58). Many colleges and universities keep distance learning course registration open longer than on-campus course registration. Furthermore, registration of distance learners can be facilitated by specific procedures such as mail-in registration, registration by toll-free number, evening or weekend registration, and payment by credit card. In response to distance learner's needs, some institutions have restructured their programs to perform rolling registration, allowing for year-round enrollment (Levine, 1992, 53-58).

Orientation. Orientation sessions help students understand their new learning environment. Students benefit from being informed about the rules and procedures of their distance class and expectations of their instructor (Schlosser & Anderson, 1994, 38). Participation in an orientation program is a critical factor in students' success and in their sense of connection with the institution, faculty and peers (Perez, 1998, np). Furthermore, students enrolled in courses presented by distance technology such as videoconferencing require orientation programs where they have an opportunity to practice using equipment, ask questions, and become familiar with the technology. Finally, students enrolled in courses offered through a consortium require specific information about 'host' and 'recipient' responsibilities and availability of support services.

Levine (1992, 53-58) explains that schools with distance degree programs will want to consider more general orientation sessions and recommends that orientation help

students understand themselves as learners and their new learning environment. Orientation programs may be offered at a variety of times: 1) following admission but before registration for all students admitted to degree programs; 2) around the time of registration; and 3) following registration for all students enrolled in distance learning options. Some colleges and universities offer videotape copies of orientation sessions.

Counseling and Advising

Distance learners may stop participating in course activities or drop out of classes or programs because of the pressures of meeting the challenges of every day life (Perez, 1998, np). Levine (1992, 21) lists a variety of concerns relevant to the distance learner such as individual learning styles, level of communication skills, conflict with the instructor or other students, study skills, time management skills, provisions for learning difficulties and referral service to psychological assistance.

The objective of support services is to meet students' needs inside and outside of the classroom (Kingan & Alfred, 1993, np). Mentors, counselors, instructors, support service specialists, and academic advisors work together to refer students as needed to specific services or programs that address expressed concerns. Students have a right to expect both counselors and advisers to be knowledgeable about the institution's rules, regulations, and policies when addressing their concerns (Winston, 1996, 355). Counselors and advisers can provide valuable services by helping students identify their needs, offering support in addressing them, and making effective referrals to the appropriate campus or community service or program.

Advising and counseling includes a number of activities such as assisting students in identifying goals, developing a plan to achieve goals, and identifying resources and

services to help in meeting personal, academic or career goals (Winston, 1996, 347). Secondly, advisors and counselors provide information, encouragement, reassurance, support and feedback concerning a student's progress. Furthermore, this area of support services encourages active problem solving and, when appropriate, offers information about (and may assist with) contacting resources or services outside the organization (Winston, 1996, 347).

Advising

Academic course and degree planning. Students must be provided with academic advising or counseling appropriate to their grade level and course of study (Schlosser & Anderson, 1994, 42-3). Academic advisement programs that are proactive in helping distance learners plan their degree programs reduce unnecessary confusion about distance degree options and requirements (Levine, 1993, 53-58). Secondly, counseling and advising for short- and long-range degree planning along with information on degree options and requirements, are essential to student success. Furthermore, this component of student support services is an important organizational strategy for increasing student retention (Levine, 1992, 53-58; Winston, 1996, 352). Finally, when academic planning encourages students to develop an awareness and understanding of prior learning and/or work experience, the process can provide a comprehensive picture of strengths, weaknesses, and experiences that may be used a means of awarding credit (Levine, 1992, 53-58).

Spears and Tatroe (1997, 41) stress the importance of academic counseling for the distance learner that is a recent graduate from high school. The authors' research indicates that high school students that receive inadequate pre-enrollment counseling

withdraw from college-level distance learning courses at a higher percentage rate than that of students who receive counseling. Academic advisement is necessary to avoid students enrolling in distance learning courses without the benefit of testing to evaluate their chances of success.

Levine (1993, 53-58) notes that numerous programs encourage returning or adult students to develop portfolios of prior learning. Levine states that the development of a learner profile takes into account an individual's background, learning styles, prior experience, skills level and motivation. Consequently, portfolios or learning profiles can provide a comprehensive picture of a student's strengths, weaknesses and experiences as well as serve as a tool for awarding credit.

Distance learners need to be informed about the success rate of previous distance learners (Levine, 1993, 53-58). A number of questions must be addressed when a student is considering entrance into a distance education program. Questions might include: How many students graduate in relationship to the number entering? What period is needed to achieve a degree? How many course failures are recorded? How many courses are repeated? What is the dropout rate? How do students' performances in distance courses compare with their performance on campus? How well do they perform on standardized tests? Is there evidence that learning is taking place?

Counseling

Career counseling. One of the most important developmental tasks a student must complete is related to career decisions. New and returning students must be aware of their interests and abilities and be able to identify fields of work consistent with their interests and abilities. Then, they must be able to select and follow through with

educational programs that can lead to a satisfying work experience (Winston, 1996, 349). Levine (1993, 53-58) believes that career counseling is particularly vital for adult distance learners, who are often seeking distance degrees specifically to upgrade their career potential. Levine explains that information and counseling centers need to provide up-to-date information about the world of work, and in particular, predicted career patterns for the nation's workers in order to advise adults how to meet their career goals.

Tutoring and mentoring. The need for socialization is a common theme in distance education. This component of student support services is part of an educational provider's strategy for connecting the student with institutional representatives, other students and/or individuals in the student's community or workplace (Perez, 1998, np). Distance learning students complete their coursework significantly faster when they have regular tutor contact (Schlosser & Anderson, 1994, 20). Peer-assisted learning and supplemental instruction have also been successful at increasing academic achievement and retention. Peer-assisted learning is a type of learner-learner interaction that provides the opportunity for increased interactivity with peers at regional sites or by way of chat room discussion (Perez, 1998, np). In mentoring programs, support services assist in establishing a relationship between an experienced and a less experienced person in which the more experienced person provides guidance, advice, support and feedback (Kerka, 1998, np).

Consultation and mediation. Consultation and mediation are types of conflict resolution used to assist with teacher-student or learner-learner disputes that are not easily resolved independently (Crego, 1996, 362). This component of student support services is of particular importance in a distance education setting where teachers and students of

diverse cultural backgrounds communicate through a technologically based method of interaction. Consequently, in a distance education setting, consultation and mediation are effective ways to solve problems, improve the educational environment, and minimize potential roadblocks to learning (Crego, 1996, 377).

Assessment

Chapter 3 identified a number of external and internal forces that have increased interest in and support for distance education. Consequently, there is a compelling public stake in education. Because of growing financial restraints and citizens' expressed concerns about the effective use of publicly invested funds, educators are faced with growing public demand for accountability (Banta, et al., 1996, 56-57).

Assessment enables educators to meet responsibilities to students and to the public. In other words, assessment is an important factor in demonstrating institutional accountability (Banta, et al., 1996, 2, 60). Carefully worded mission statements reflect what matters most – student learning – and serve as solid foundations for assessment programs. Assessment compares educational performance with educational purposes and expectations. Expectations are derived from the institution's mission, from faculty intentions in program and course design, and from students' own goals (Banta, et al., 1996, 17).

Assessment and Placement. The *Principles for Good Practice* emphasize that accepted students must have the background, knowledge, and technical skills needed to undertake the program. Pre-enrollment assessment is required at the majority of community colleges in the United States (Perez, 1998, np). Assessment programs are

important in identifying students' abilities so that they can be placed, advised and counseled appropriately (Banta, et al., 1996, 30; Kingan & Alfred, 1993, np).

Support services such as testing, entry assessment and admissions counseling are used to determine the learner's needs and status in relationship to the institution. Assessment can provide answers to questions such as: Is the student academically and socially prepared for college? What is the student's previous educational experience? What external support does the student have that may facilitate or inhibit academic success? What specific needs – academic or non-academic -- must be addressed to improve the student's chances for success? (Banta, et al., 1996, 30; Kingan & Alfred, 1993, np)

Entering students. Institutions administer assessment tests to entering students to determine students' readiness for college-level work and to determine appropriate program placements (Kingan & Alfred, 1993, np). Although most community colleges use standardized tests, some may add their own testing procedures. It is important for the institution and students alike to recognize that the test, in and of itself, is not the key to success. Entry assessment testing enables an institution to identify skill-deficient students or students who possess academic, social or economic problems that challenge educational success (Kingan & Alfred, 1993, np; Perez, 19998, np). It is the information provided by the assessment, and the support services provided in response to determined needs that is the key to a student's success (Kingan & Alfred, 1993, np).

Previous academic credit. Levine (1993, 53-58) explains that policies about the assessment of prior credits and the transferability of credits also are needed for distance degree programs. Levine states that, because the majority of distance students are also

adult students, their prior academic record may include courses taken many years earlier. They may also bring to academic life considerable experience from personal and work situations that may be relevant both to an assessment of their capacity to enter a degree program and to the amount of credit they bring to the program. For these reasons, performance based assessment, often relying on portfolios of outcome and process artifacts, may be used as part of an assessment program (Laffey and Singer, 1999, 357).

Advanced placement. Students may elect to apply for advanced placement. Levine (1993, 53-58) notes that students applying for admission to a distance degree program need to know whether the institution accepts proficiency examination credits. The major nationally recognized tests are AP (Advanced Placement subject tests), CLEP (College Level Examination Program), Dantes (Defense Activity for Non-Traditional Education Support) and the ACT-PEP (PEP stands for Proficiency Examination Program) (Leader, 1998, np).

Student progress. Students need support and direction to enable them to make a successful transition from traditional classroom based education to learner-directed distance education (Sherry, 1996, np). In particular, they need tools that will help them monitor their progress and obtain timely feedback on their activities. Test scores may be used as a strategy to predict whether a student may be at risk of failing or dropping out of a course or program (Perez, 1998, np). Faculty may administer standardized tests or use other qualitative techniques for student assessment (Perez, 1998, np). Some colleges have an 'academic-alert system' that sends notices to students who are not maintaining satisfactory progress -- determined by cumulative GPA, course pass rate or grade points

earned. Rudman's study of at-risk community college students (cited in Perez, 1998, np) found that students who received alert letters had the highest end-of-year retention.

Performance assessment requires students to demonstrate what they know. A significant concern in distance education is test proctoring – including policies regarding proctor staffing requirements, test material delivery and test retrieval (Gelman-Danley & Fetzner, 1998, np). Institutional planning is especially important in this area. The college may find it necessary to implement new forms of assessment and evaluation to insure that the student's work is original and authentic (Sherry, 1996, np). Furthermore, if distance education courses are to be taught off-schedule, or are not consistent with the regular course term, procedures must be put in place that will allow course completion records and grades to be posted at any time (Price, 1996, 41). Finally, in consortial or collaborative efforts, the test proctoring issue -- including policies regarding proctoring, staffing requirements, test material delivery and test retrieval -- must be agreed to by all consortia members prior to course implementation.

Portfolio assessment is a type of performance assessment that involves gathering multiple indicators of student progress. There are many types of portfolios, however, institutions typically require portfolios that are collections of materials that document and showcase evidence of students' efforts, progress and achievement over time. Students who are graduating may be required to complete a portfolio to demonstrate they have successfully met learning objectives. The portfolio might also include an updated resume and cover letter, the student's professional goals at graduation and five or ten years later, or an example of written work from a professional experience or a course (Banta, et al., 1996, 13).

Concerns and benefits. Assessment is an on-going process—successful evaluative programs assess students throughout their educational careers. Institutions typically administer assessment tests to students in order to determine readiness for college-level work and the appropriate program placement (Kingan & Alfred, 1993, np). However, evaluation can become tracking – a concern that raises serious questions about access and equity (Kingan & Alfred, 1993, np). The changes in student body along with internal and external demands for accountability may lead to institutional efforts to direct students toward 'alternative' or 'second-choice' curricula where there is less likelihood of failure. Furthermore, there are serious questions about built-in bias and the reliability and validity of the standardized testing instruments (Kingan & Alfred, 1993, np). Many colleges attempt to reduce the impact of testing bias by requiring a variety of assessment information such as prior educational record, general and specific aptitudes as well as personal characteristics that affect scholastic readings (Banta, et al., 1993, np). Consequently, some colleges administer a variety of personality, scholastic, and personal aptitude tests and assessment procedures (Kingan & Alfred, 1993, np).

Student evaluation of program. It is important for students to participate in the evaluative process -- both in terms of their own progress and the success of the courses or programs in which they are enrolled (Schlosser and Anderson, 1994, 39). Although students are often thought of only as recipients of assessment, they can also be important contributors (Banta, et al., 1996, 40). Program evaluation is a critical component in evaluating student frustrations and successes (Spears and Tatroe, 1997, 40). By knowing students' preferences and educational goals, administrators can develop degree programs that meet students' needs (Levine, 1992, 56). Once analyzed, assessments of student

attitudes and perceptions can be used to identify and changes those areas of a program that are found to produce negative reactions (Schlosser & Anderson, 1994, 39). Consequently, through carefully planned evaluation programs, support services can provide the institution with information about the student that will ensure a successful learning experience and assist with refining policies and procedures for the distance learning program.

Learning Resources

The *Criteria for Accreditation Section 5.1.7 Library/Learning Resources for Distance Learning Activities* requires that, for distance learning activities, an institution must ensure the provision of and ready access to adequate library/learning resources and services to support the courses, programs and degrees offers. The institution must provide access to electronic information available through existing technologies or provide them through formal agreements. Electronic document delivery of materials, on-line databases and library catalogs enable students to acquire information and pursue research related to their courses of study (Gelman-Danley and Fetzner, 1998, np; Kerka, 1996, np).

Texshare, a cooperative program of the Texas Higher Education Coordinating Board, is designed to enhance library service to students, faculty and staff of Texas state-supported institutions of higher education. The focus of the program, efficient sharing of library collections, emphasizes electronic information resources as well as traditional collections of books and journals. The 75th Legislature established Texshare as a program of the Texas State Library and Archives Commission, and expanded the program to include public community colleges and independent colleges and universities.

On September 1, 1997, these institutions became eligible to participate in Texshare (<http://www.texshare.edu>).

Other Support Services

Additional concerns relevant to the distance learner include purchasing textbooks and supplies, support services provided in more than one language, student health insurance policies, and the hours services are available.[31] Furthermore, distance classes requiring specific laboratory facilities will need to assist students in making the necessary arrangements for use of local facilities (Schlosser & Anderson, 1994, 38).

METHODS OF INTERACTION AND SYSTEMS OF DELIVERY

Evidence presented in chapters 2 and 3 shows that education is based on interpersonal communication and governed by the rules of personal interaction. However, the separation of instructor and student distinguishes distance education from all forms of conventional, face-to-face, direct teaching and learning. Therefore, it is necessary to replace the interpersonal communication and interaction of conventional education by a variety of mechanical or technological means of communication.[32] Sherry (1996, np) cautions that interactivity is not limited to audio and video, nor to the teacher-student interactions. It also involves the connectivity the students feel with the instructors, other staff, and with other learners. Without that connectivity, distance learning degenerates into the correspondence course model of independent study.

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[31] See, for example, Gelman-Danley, 1998, np; Levine, 1992, 21; MacBrayne & Russo, 1995, 166; Maddux & Johnson, 1997, 7.

[32] See, for example, Keegan, 1980, 25; Green, 1993, 4; Parrot, 1995, np.

Therefore, the student becomes autonomous and isolated, procrastinates in completing coursework and eventually drops out.

The literature[33] identifies a wide range of technology-based alternatives to institutional-based services. Instructional designers and curriculum developers may become overwhelmed by the technologies and overlook the underlying issues of learner characteristics and needs, influence of selected media upon the learning process, and equity of access (Sherry, L. 1996, np). However, case studies offer anecdotal evidence of distance education programs that have successfully integrated computer and audio conferencing, fax, voice-mail, audiographics, videotapes, videodisks, audio cassette tapes, video presentations, television broadcasts and the more familiar telephone and print-based materials into the teaching and learning process.

For example, colleges and universities may provide applications for admission in electronic format. Beginning with the fall 1999 semester, students will be able to complete a single application to apply to any public university in Texas for admission. The 75th Texas Legislature's Senate Bill 150 requires all universities use the common application form and to accept freshmen and undergraduate transfer applications via an electronic version of the form beginning with the 1999-2000 form (CBE Report, April-June 1998).

[33] See, for example, Berge & Collins 1995, 2; Hopey & Ginsburg, 1996, 22; Kerka, 1996, np; Lehman, 1995, 147-149; Levine, 1992, 53-54; MacBrayne & Russo, 1995, 165-170; Maddux & Johnson, 1997, 7-9; Phipps, et al., 1998, 5, 19; Price, 1995, 40; Smith, 1998, np; Western Cooperative, 1997; Witherspoon, 1997; Zhang, 1998, np

The literature[34] provides examples of quality distance learning programs that provide enrollment information or off-campus registration in a variety of formats. Methods of interaction or systems of delivery include voice mail, a toll-free telephone number, automated information or hot-line telephone service, fax, e-mail, on-line request forms, and electronic information packets. Bulletin boards and discussion lists provide current information or answers to frequently asked questions (FAQs). Furthermore, on-line registration, support staff available during registration times, and technical support staff available to assist with questions and concerns facilitates the registration process for distance learners.

Case studies have also shown that multiple approaches to presenting orientation programs, including the use of video and its distribution through multiple means offer significant benefits to first-time distance learners. Audio or videotaped explanations of enrollment forms, registration procedures or advanced placement provide students with non-print sources of information.

Telementoring is recommended as a way to increase personal interaction and to connect learners with subject-matter experts who can provide advice, guidance and feedback on the learning process. Audiotaped presentations on time management, study skills, or stress management are beneficial to adult distance learners who frequently travel. Chat rooms enable students to conference with peers and an advisor or counselor about personal concerns regarding the educational process.

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[34] See, for example, Lehman, 1995, 165; Levine, 1992, 53-58; MacBrayne & Russo, 1995, 165-170; Witherspoon, 1997, 31, 40

Institutional Web Site. Developing and maintaining an institutional Web site is expensive and labor-intensive, however, a college's Web presence serves a number of beneficial purposes. The institutional Web site enables college or university to meet accreditation requirements[35] that an institution make available to students and the public accurate catalogs or other official publications and other items relative to attending the institution or withdrawing from it.

Secondly, in addition to meeting accreditation requirements, colleges and universities can easily and frequently update established Web pages to provide students with clear, complete, and timely information on the curriculum and course and degree requirements (Western Cooperative, 1997, 7). Finally, the Web's ability to combine print, audio, and video-based resources with computer-mediated or computer-based instruction enable educational support services to adapt effectively to a student's particular learning preference, schedule or special needs (Khan, 1997, 6).

SUMMARY

Postsecondary institutions that offer distance education courses have an obligation to provide students with the essential services that support distance learning. That obligation is derived from an appropriate extension of institutional responsibilities to students, accreditation criteria which institutions must meet to obtain or maintain accreditation, and state and federal laws. Consequently, institutional planning should address support services that may be necessary or appropriate for distant learners.

[35] Southern Association for Colleges and Schools' *Criteria for Accreditation Section 4.4 Publications*

Student support policies include the entire range of institutional programs and resources that support student learning and personal development. Distance education programs must plan for a variety of concerns such as fairness and equity in admissions; recognition of prior learning; transfer of credits; degree program planning; student orientation regarding the distance education experience; and assessment of students' progress. Services must be consistent with, and supportive of, the mission, philosophy and goals of both the central institution and the distance education program.

Student support services are an essential factor in developing and operating a successful distance education program, and access to student support services is a critical factor in distance learner success. Distance education students require a variety of support services and need to access services from a distance and at times that fit their schedules. Services include advising, counseling, libraries, marketing, and access to course resources. Additional services are placement testing, program advising, financial aid application assistance, textbook delivery, access to support materials and faculty, and examination proctoring.

Education is based on interpersonal communication and governed by the rules of personal interaction. The separation of instructor and student distinguishes distance education from all forms of conventional, face-to-face, direct teaching and learning. Therefore, it is necessary to replace the interpersonal communication and interaction of conventional education by a variety of mechanical or technological means of communication. Support services may be delivered to distant learners through a variety of methods including student visits to the home campus, or contracts with other higher education institutions, high schools, or other entities in closer proximity to distant sites.

Additional methods include faculty and support staff travel to distant sites or access through technological means.

There is a wide range of technology-based alternatives to institutional-based services. Distance education programs have successfully integrated computer and audio conferencing, fax, voice-mail, audiographics, videotapes, videodisks, audio cassette tapes, video presentations, television broadcasts and the more familiar telephone and print-based materials into the teaching and learning process.

A college's Web presence serves a number of beneficial purposes by making available to students and the public accurate catalogs, official publications and other items relative to attending the institution or withdrawing from it. Colleges and universities can easily and frequently update established Web pages to provide students with clear, complete, and timely information on the curriculum, course and degree requirements. Furthermore, the Web's ability to combine print, audio, and video-based resources with computer-mediated or computer-based instruction enable educational support services to adapt effectively to a student's particular learning preference, schedule or special needs.

Chapter 5 summarizes the conceptual concepts discussed in this and preceding chapters. The chapter will develop a conceptual framework and describe the methodology for this applied research project.

Chapter 5 - Conceptual Framework and Methodology

Statement of Purpose

The chapter summarizes the conceptual framework for each question and describes the selected research tools and methodology that link the conceptual frameworks to the research purpose. Secondly, the chapter identifies the criteria used to develop the individual elements of the coding sheet used in this study. Finally, the chapter identifies the literature that links the conceptual frameworks to the elements on the coding sheet.

CONCEPTUAL FRAMEWORK

The empirical portion of this study is organized around five questions. Each question refers to information about distance education and support services for distance education. Questions 1, 2, 3 and 4 inquire about the institutional Web site, distance education, consortial relationships and methods of technology-based alternatives utilized to link the distance learner with the institution's learning strategies. Question 5 assesses whether colleges are providing support services that contribute to a successful distance learning experience and ensure a quality distance education program. The questions are

1) Is each Texas public community and technical college Web site providing information about the teaching and learning process?

2) Are colleges offering distance education and providing information on the distance teaching and learning process?

3) Are colleges actively participating in consortial or collaborative efforts?

4) What methods of interaction or systems of delivery are used to provide support services for distance learning?

5) Are colleges' Web sites adequately providing access to support services that are appropriate to the distance learner's needs, preferences and schedule?

The key issues outlined by these questions are relevant to the quality and success of a distance learning program. Each of the questions has a separate conceptual framework. The developmental questions are associated with types of information that may or may not be found in institutional Web sites. Distance learning through the Internet and the World Wide Web is relatively new. Hence, some of the information sought is purely descriptive (Questions 1, 2, 3 and 4). The last question, Question 5, gauges whether colleges' Web sites are providing adequate access to support services that are appropriate to the distance learner's needs, preferences and schedule.

The coding sheet used in this study is organized by the research questions (**an example of the coding sheet is provided in Appendix B**). Furthermore, the criteria used to develop the individual elements of the coding sheet are derived from the literature summarized in Chapters 2, 3 and 4.

Table 5.1 states Research Questions 1, 2, 3 and 4 and identifies the literature that links the conceptual frameworks to the items on the coding sheet. Research Question 1 inquires about the institutional Web site. Some of the information sought by the developmental question is purely descriptive and is associated with types of information that may or may not be found in institutional Web sites.

Table 5.1
Conceptual Framework for Research Question 1
Literature Relevant to Coding Items 1-8

INSTITUTIONAL WEB PRESENCE

Q1: Is each Texas public community and technical college Web site providing information about the teaching and learning process?

Elements	Source	Coding Item
Institutional Web site	SACS *Criteria for Accreditation Section 4.4* and *Section 5.3*	1
Stated purpose of Web site	Maddux, 1997, 7-9; Johnstone, 1996, 40; Levine, 1993, 21; Lewis, et al., 1995, 27; MacBrayne, 1995, 168-170; Phipps, et al., 1998, 32;	2
Introduction to college, mission, philosophy	*Principles of Good Practice;* Smith, 1998, np; Levine, 1992, 24; MacBrayne, 1995, 168; Phipps, et al, 1998, 19; Johnstone, 1996, 40	3
Accreditation	*Principles of Good Practice;* Smith, 1998, np	4
Links to regulatory / accrediting agencies	Smith, 1998, np	5
Program-specific accreditation (i.e., health science, engineering)	*Principles of Good Practice;* Smith, 1998, np	6
Links to accrediting agencies	Smith, 1998, np	7
Faculty credentials	Maddux, 1997, 7-9; Johnstone, 1996, 40; Levine, 1992, 21; Lewis, et al., 1995, 27; Phipps, et al, 1998, 32; MacBrayne, 1995, 168-170; Smith, 1998, np	8

Table 5.1 continues by stating Research Question 2 and identifies the literature that links the conceptual framework to the items on the coding sheet. The developmental question asks if colleges are offering distance education and whether colleges' Web sites provide information about participation in the distance teaching and learning process. Some of the information sought by Research Question 2 is purely descriptive in nature.

Table 5.1 cont.
Conceptual Framework for Research Question 2
Literature Relevant to Coding Items 9-16

POSTSECONDARY DISTANCE EDUCATION

Q2: Are colleges offering distance education and providing information on the distance teaching and learning process?

Elements	Source	Coding Item
Reference to distance learning course offerings – no program / unit		9
Identified as separate program / unit	Hopey, 1996, 23; Schweiger, 1994, 21; Western Cooperative, 1997, 1; *Principles of Good Practice*	10
Distance learning program mission, philosophy	*Principles of Good Practice*; Levine, 1992, 21	11
Program / course outcomes – objectives, policies, procedures	*Principles of Good Practice*	12
Distance learning regulatory / accrediting information	*Principles of Good Practice*	13
Links to regulatory / accrediting agencies	Smith, 1998, np	14
Expected learning outcomes	*Principles of Good Practice*	15
Nature of faculty/student interaction	*Principles of Good Practice*; SACS *Criteria 4.8.2.4*	16

The following section of Table 5.1 states Research Question 3. The table also identifies the literature that links the conceptual framework to the items on the coding sheet. The developmental question inquires about colleges' participation or membership in consortial or cooperative efforts. Some of the information sought by Research Question 3 is purely descriptive and is associated with types of information that may or may not be available in institutional Web sites.

Table 5.1 cont.
Conceptual Framework for Research Question 3
Literature Relevant to Coding Items 17-20

POSTSECONDARY CONSORTIAL OR COOPERATIVE EFFORTS

Q3: Are colleges actively participating in consortial or cooperative efforts?

Elements	Source	Coding Item
Consortia / cooperative efforts	SACS *Criteria 4.9.1;* Phipps, et al., 1998, ix	17
Links to consortia homepage	SACS *Criteria 4.9.1;* Phipps, et al., 1998, ix	18
Links to members homepage	SACS *Criteria 4.9.1;* Phipps, et al., 1998, ix	19
Explanation of consortial agreements – co-enrollment, host/recipient, etc.	SACS *Criteria 4.9.1;* Phipps, et al., 1998, ix	20

The final section of Table 5.1 states Research Question 4 and identifies the literature that links the conceptual frameworks to the items on the coding sheet. The developmental question inquires about the methods of interaction or systems of delivery used as technology-based alternatives to traditional campus-based services. Some of the information sought is purely descriptive and is associated with types of technologies that may or may not be used to provide access to student support services.

This part of the coding sheet does not use individual coding items; the technologies listed are examples cited by the literature as possible methods of linking the distance learner to the learning strategies developed by the institution. Types of technologies used will be documented for services where appropriate. Notations will be made on the coding sheet in the column titled Method of Interaction/System of Delivery.

Table 5.1 cont.
Conceptual Framework for Research Question 4

Asynchronous or Synchronous Technology-based Alternatives Used to Access Student Support Services

METHODS OF INTERACTION / SYSTEMS OF DELIVERY

Q4: What methods of interaction or systems of delivery are used to provide support services for distance learning?

	Source
Web page revision <3 mo <6 mo <1 yr >1 yr	Maddux, 1997, 7-9
Asynchronous	Lehman, 1995, 147-149, 170 Lewis, et al., 1995, 15; Smith, 1998, np; Morris, 1994, 58; Repman, 1996, 36; Zhang, 1998, np; MacBrayne, 1995, 165-170; Berge, 1995, 2; Hopey, 1996, 22; Kerka, 1996, np; Levine, 1992, 53-58; Maddux, 1997, 7-9; Phipps, et al., 1998, 5, 19; Price, 1995, 40; Martin, 1997, 51-52; Parrot, 1995, np; SACS *Criteria Section 5.3*
Audiotape	
Computer Assisted	
E-mail	
Mail	
Video Presentations One-way	
Television broadcast	
Videotape / disk	
Telnet	
Fax	
Telephone / voice menu information bank	
Web-based	
Print-based	
Downloading of software / course materials	
Bulletin board / Listserv / Newsgroup	
FTP	
Synchronous	
Toll-free telephone number	Lehman, 1995, 147-149,170; Lewis, et al., 1995, 15; Smith, 1998, np; Morris,1994, 58; Repman, 1996, 36-37; Zhang, 1998, np, Kerka, 1996, np; MacBrayne, 1995, 165-170; Berge, 1995, 2; Hopey, 1996, 22; Kerka, 1996, np; Levine, 1992, 53-58; Maddux, 1997, 7-9; Phipps, et al., 1998, 5, 19; Price, 1995, 40; Martin 1997, 51-52; Parrot, 1995, np; SACS *Criteria Section 5.3*
Regional Center	
Interactive two-way video/ two-way audio	
Telephone conference	
Videoconference	
WWW – World Wide Web or Internet	
Chat or MOO	

BEST COPY AVAILABLE

Institutional Web Presence. The status of community and technical college Web sites is addressed by Research Question 1: *Is each Texas public community and technical college Web site providing information about the teaching and learning process?* An institution's Web presence is a reflection of the administration's commitment to incorporating technological advances in the teaching and learning process. Second, establishing an institutional Web site is often the first step in developing a technological infrastructure for a college's distance education program. Third, the Internet and the World Wide Web enable a college to provide distance learners with an immediate, personal, and efficient learning experience. Finally, the institutional Web site expands the college's boundaries to new student markets and enables the college to disseminate information in a format that can be easily and frequently updated. Items 2-8 ascertain if the Web site is providing potential students and the public with information about the college's mission and purpose, regulatory and accrediting bodies, and the quality of instruction.

Postsecondary Distance Education. Research Question 2 asks *Are colleges offering distance education and providing information on the distance teaching and learning process?* In other words, the question asks whether community and technical colleges are offering distance education courses and have established separate programs within the organizational structure to oversee the distance teaching and learning process. The literature cited in Table 5.1 explains that a separate operational unit for distance education demonstrates a college's commitment to on-going support, both financial and technical, and to continuation of the program for a period sufficient to enable students to complete a degree/certificate. The literature also identifies types of information relevant

to distance education that should be provided to potential students and the public. This information is represented by items 11-16 on the coding sheet. Item 11 ascertains if the distance education program's role and mission is available for review and comparison to the college's mission and purpose. Item 12 documents whether the college's Web site is providing information such as clearly stated program and/or course outcomes, objectives, policies or procedures.

Evidence collected by Items 13 and 14 notes if the program is provided by or through an institution that is accredited by a nationally recognized accrediting body, and that programs holding specialized accreditation meet the same requirements when offered electronically. Evidence collected for Item 15 determines if the distance education program clearly states expected learning outcomes appropriate to the degree or certificate awarded. Item 16 examines whether the distance education program provides students with information about access to and interaction with faculty members.

Postsecondary Consortial or Cooperative Efforts. A college's Web site increases opportunities to participate in consortia or collaborative relationships. In addition, links to member colleges or the consortia's Web site indicates an institution's commitment to the success of the collaborative efforts. Research Question 3 asks *are colleges actively participating in consortial or collaborative efforts?* Elements relevant to Research Question 3 are represented by Items 17-20 on the coding sheet. Evidence collected by Items 17-20 determines if colleges are participating in cooperative efforts and whether or not the institutions are providing students and the public with information on the consortia's policies on awarding degrees and credits, and the responsibilities of host and remote sites. In addition to documenting a college's participation in consortial

efforts, names of identified relationships, for example, membership in the Virtual College of Texas, are noted.

Methods of Interaction or Systems of Delivery. The literature presented in Table 5.1 explains that education is based on interpersonal communication and governed by the rules of personal interaction. Consequently, interactions lie at the heart of any learning situation and remain critical to active learning. The separation of instructor and student distinguishes distance education from all forms of conventional, face-to-face, direct teaching and learning. Therefore, it is necessary to replace the interpersonal communication and interaction of conventional education by a variety of mechanical or technological means of communication.

The types of technology-based alternatives used to provide student support services for the distance learner are identified through evidence collected for Research Question 4: *What methods of interaction or systems of delivery are used to provide support services for distance learning?* An institution's commitment to providing appropriate use of technology to meet student's needs and learning styles is reflected in the methods of interaction or systems of delivery utilized in providing student support services. If the forms are limited, students whose aptitudes and interest are relevant to the form emphasized will have an advantage over those whose aptitudes are neglected. Furthermore, interactive technologies enable colleges to maximize social interaction for the distance learner. Finally, a diverse selection of technology-based alternatives to institutional-based services makes it possible to effectively adapt the method of interaction to a student's particular learning preference, schedule or special needs.

Asynchronous and synchronous methods are listed on the coding sheet. Content analysis of institutional Web pages is used to identify the methods of interaction or delivery systems utilized for providing support services for distance learners. Where appropriate, the method or system is noted on the coding sheet. In addition, it is important that Web pages are revised or updated frequently to insure students' access to current and timely information. Consequently, the revision date stated for each college Web site is documented on the coding sheet.

Student Support Services

The information acquired for Questions 1, 2, 3 and 4 is descriptive. However, information acquired for Question 5 is used to **gauge or assess the availability of support services** to distance learners through an institutional Web site. Student support services are a significant factor in providing a quality distance educational experience. Secondly, as an essential part of the institutional planning process, support services contribute to the achievement of an institution's educational goals. Finally, access to student support services is a critical factor in distance learner success.

Research Question 5 asks *Are colleges' Web sites adequately providing access to support services that are appropriate to the distance learner's needs, preferences and schedule?* Drawing on the literature, as well as guidelines provided by accrediting agencies, professional organizations or distance education consortia, a practical ideal type based on six conceptual categories was developed for this study. The practical ideal type consists of descriptive categories and key items that represent types of student support services that *should* be available for the distance learner. These support services are

1) information/technical support, 2) admissions, 3) registration, 4) assessment, advising, and counseling, 5) learning resources, and 6) other services. The categories and items defined for the ideal type are listed on the coding sheet. Table 5-2 states research Question 5, defines conceptual categories and identifies the literature that links the conceptual framework, descriptive categories, and items on the coding sheet.

Table 5.2
Conceptual Framework for Research Question 5
Literature Relevant to Coding Items 21-27

STUDENT SUPPORT SERVICES FOR DISTANCE LEARNERS

Q5: Are colleges' Web sites adequately providing access to support services that are appropriate to the distance learner's needs, preferences and schedule?

Information/Technical Support		
Elements	**Source**	**Coding Item**
Technical support staff	Lehman, 1995, 165; Levine, 1992, 53-58; MacBrayne & Russo, 1995, 165-170; Witherspoon, 1997, 31, 40; SACS *Criteria for Accreditation Section 5.3*	21
Assumptions about technological competence and skills	Johnstone & Krauth, 1996, 40; Lewis, et al., 1995, 27; *Principles of Good Practice*	22
Information management skills – going online, retrieving and evaluating information	Johnstone & Krauth, 1996, 40; Lewis, et al., 1995, 27	23
Ethical how-to's; confidentiality; privacy	Kidder, 1995, 222-7; Johnstone & Krauth, 1996, 40; Repman & Logan, 1996, 35; Schlosser & Anderson, 1994, 38; Zhang, 1998, np	24
Log-on information, communications parameters, technical equipment requirements	*Principles of Good Practice*	25
Guides, tutorials, instructions for using technology	Berge & Collins, 1995, 2; Hopey & Ginsburg, 1996, 22; Kerka, 1996, np; Lehman, 1995, 149; Levine, 1992, 53-58; MacBrayne & Russo, 1995, 165-170; Maddux & Johnson, 1997, 7-9; Phipps, et al., 1998, 5, 19; Price, 1995, 40; Smith, 1998, np; Western Cooperative, 1997; Witherspoon, 1997; Zhang, 1998, np	26
Opportunity to practice sending and receiving files, becoming familiar with system	Berge & Collins, 1995, 2; Hopey & Ginsburg, 1996, 22; Kerka, 1996, np; Lehman, 1995, 147-149; Levine, 1992, 53-58; MacBrayne & Russo, 1995, 165-170; Maddux & Johnson, 1997, 7-9; Phipps, et al., 1998, 5, 19; Price, 1995, 40; Smith, 1998, np; Western Cooperative, 1997; Witherspoon, 1997; Zhang, 1998, np	27

Table 5.2 cont.
Conceptual Framework for Research Question 5
Literature Relevant to Coding Items 28-45

Q5: Are colleges' Web sites adequately providing access to support services that are appropriate to the distance learner's needs, preferences and schedule?

Admissions		
Elements	**Source**	**Coding Item**
Academic calendar	SACS *Criteria 4.4*	28
Course guide / catalog	SACS *Criteria 4.4; Principles of Good Practice*	29
Student Handbook	SACS *Criteria 4.4*	30
Criteria for Admissions	Gellman-Danley, 1998, np; SACS *Criteria 4.4*	31
Additional admissions requirements for distance learning	Gellman-Danley, 1998, np	32
Course / degree requirements	SACS *Criteria 4.4; Principles of Good Practice*	33
Application – Institution	Texas Higher Education Coordinating Board	34
Application - Common	Texas Higher Education Coordinating Board	35
Transfer of Credit – Explanation - Students Entering	Levine, 1992, 24; Schweiger, 1994, 86	36
Transfer of Credit – Explanation – Specific to distance learning	Levine, 1992, 24; Schweiger,1994, 86	37
Transfer of Credit - Explanation - Students Leaving	Levine, 1992, 24; Schweiger, 1994, 86	38
Financial Aid	Johnstone & Tilson, 1997, 67; Texas Higher Education Coordinating Board; *Principles of Good Practice*	39
Explanation of Tuition and Fees	*Principles of Good Practice;* SACS *Criteria 4.4*	40
Comparison of on-site and distance learning costs	Texas Higher Education Coordinating Board	41
Admissions Contact Information	SACS *Criteria 4.4; Principles of Good Practice*	42
Refund Policies	SACS *Criteria 4.4*	43
Deadlines clearly stated	SACS *Criteria 4.4; Principles of Good practice;* Levine, 1992, 53-58	44
Orientation	Schlosser & Anderson, 1994, 38; Perez, 1998, np; Levine, 1992, 53-58	45

Table 5.2 cont.
Conceptual Framework for Research Question 5
Literature Relevant to Coding Items 46-64

Q5: Are colleges' Web sites adequately providing access to support services that are appropriate to the distance learner's needs, preferences and schedule?

Registration		
Elements	**Source**	**Coding Item**
24-hour registration	Levine, 1992, 53-58	46
Registration – Instructions	Levine, 1992, 53-58	47
Registration – Deadlines	Levine, 1992, 53-58	48
Year-round registration for distance learning	Levine, 1992, 53-58	49
Payment Policies	Levine, 1992, 53-58	50
Support staff available during registration period	Levine, 1992, 53-58	51
Payment by credit card	Levine, 1992, 53-58	52
Assessment		
Elements	**Source**	**Coding Item**
Assessment. Placement	Gellman-Danley, 1998, np; Levine, 1992, 53-58; Schlosser & Anderson, 1994, 42-43; Spears and Tatroe, 1997, 41; Banta, et al., 1996, 30; Kingan & Alfred, 1993, np; *Principles of Good Practice*	53
Assessment. Basic skills	Levine, 1992, 21, 53-58; Western Cooperative, 1997; Witherspoon, 1997	54
Assessment. Learning styles	Levine, 1992, 21	55
Assessment. Real-world experience	Levine, 1992, 53-58; Schlosser & Anderson, 1994, 42-43	56
Assessment. Communication skills	Levine, 1992, 21	57
Assessment. Proficiency exams (CleP)	Leader, 1998, np; Levine, 1992, 53-58	58
Assessment. Performance based (portfolio)	Levine, 1992, 53-58; Schlosser & Anderson, 1994, 42-43; Laffey and Singer, 1999, 357; Banta, et al., 1996, 13	59
Assessment. Clearly defined guidelines on testing policy	Gelman-Danley & Fetzner, 1998, np	60
Assessment. Information on test delivery / proctoring	Gelman-Danley & Fetzner, 1998, np	61
Assessment. Grade posting	Price, 1996, 41	62
Assessment. Student progress	Perez, 1998, np; Banta, et al., 1996, 13; *Principles of Good Practice*	63
Assessment. Student's comments on program	Banta, et al., 1996, 2, 17, 56-57, 60; Spears and Tatroe, 1997, 40; Levine, 1992, 56; Schlosser & Anderson, 1994, 39; *Principles of Good Practice*	64

Table 5.2 cont.
Conceptual Framework for Research Question 5
Literature Relevant to Coding Items 65-76

Q5: Are colleges' Web sites adequately providing access to support services that are appropriate to the distance learner's needs, preferences and schedule?

Advising and Counseling		
Elements	**Source**	**Coding Item**
Advising. Academic	Winston, 1996, 347, 352; Schlosser & Anderson, 1994, 42-3; Levine, 1993, 53-58; Spears and Tatroe, 1997, 41	65
Advising. Degree Planning	Winston, 1996, 347, 352; Levine, 1993, 53-58; Spears and Tatroe, 1997, 41	66
Advising. Comparison distance learning and traditional education	Levine, 1993, 53-58	67
Advising. Success rate of previous distance learners	Levine, 1993, 53-58	68
Counseling. Career	Winston, 1996, 347, 349; Levine, 1993, 53-58	69
Counseling. Mediation with Instructor	Levine, 1992, 21; Crego, 1996, 362, 377	70
Counseling. Study Skills	Levine, 1992, 21	71
Counseling. Time Management	Levine, 1992, 21	72
Counseling. Referral services	Levine, 1992, 21; Winston, 1996, 347, 355	73
Counseling. Mentoring	Perez, 1998, np; Schlosser & Anderson, 1994, 20; Kerka, 1998, np	74
Counseling. Tutoring	Perez, 1998, np; Schlosser & Anderson, 1994, 20	75
Counseling. Learning difficulties	Levine, 1992, 21	76

Table 5.2 cont.
Conceptual Framework for Research Question 5
Literature Relevant to Coding Items 77-88

Q5: Are colleges' Web sites adequately providing access to support services that are appropriate to the distance learner's needs, preferences and schedule?

Learning Resources		
Elements	**Source**	**Coding Item**
Library catalog	SACS *Criteria Section 5.1.7*; Gelman-Danley and Fetzner, 1998, np; Kerka, 1996, np; Texas Higher Education Coordinating Board	77
On-line full-text databases		78
Texshare participant		79
Electronic document delivery		80
Supplementary course materials		81
Required texts		82
Other Support Services		
Elements	**Source**	**Coding Item**
Hours services available	*Principles of Good Practice*, Gelman-Danley, 1998, np.; Levine, 1992, 21; MacBrayne & Russo, 1995, 166; Maddux & Johnson, 1997, 7	83
Languages other than English	Gelman-Danley, 1998, np.; Levine, 1992, 21; MacBrayne & Russo, 1995, 166; Maddux & Johnson, 1997, 7	84
Purchasing textbooks and supplies		85
Student health insurance		86
Laboratory facilities	Schlosser & Anderson, 1994, 38	87
Regional centers	Texas Higher Education Coordinating Board	88

Distance learners may stop participating in course activities or drop out of classes or programs because of the pressures of meeting the challenges of every day life. The objective of support services is to meet students' needs inside and outside of the classroom. Mentors, counselors, instructors, support service specialists, and academic advisors work together to refer students as needed to specific services such as counseling, financial aid or job placement. This connectivity and integration of services enables the

distance learner to feel part of the college community while providing access to a network of services and programs that ensure a student successfully meets his or her educational goals.

Research Question 5 asks *Are colleges' Web sites adequately providing access to support services that are appropriate to the distance learner's needs, preferences and schedule?* Because access to student support services is a critical factor in distance learner success, distance education programs must consider that students require a variety of support services. Furthermore, distance learners need to access services in the same way they access instruction—from a distance and at times that fit their schedules. Student support services include the entire range of institutional programs and resources that support student learning and personal development. Services include advising, counseling, libraries, and access to course resources. Additional services are placement testing, program advising, financial aid application assistance, textbook delivery, access to support materials and faculty, and examination proctoring.

Six conceptual categories developed for the study are Information/Technical Support, Admissions, Registration, Assessment, Advising and Counseling, Learning Resources and Other Services. The categories consist of key elements that represent types of student support services that *should* be available for the distance learner. The elements, represented by items on the coding sheet, are based on the literature and guidelines provided by accrediting or state regulatory agencies, professional organizations or distance education consortia that are summarized in Chapters 2, 3 and 4 and listed in Table 5.2.

Information/Technical Support. The literature cited in Table 5.2 explains that a successful distance education program provides information on assumptions about technological competence and skills and technical equipment requirements. Case studies, accreditation criteria and regulatory agency requirements identify types of informational services and technical support that should be available to the distance learner. These services are represented by Items 21-27 on the coding sheet. Evidence collected by Item 21 determines if technical support staff is available for distance learners. Items 22-25 identify the types of information available to distance learners concerning technological skills, information management skills, and communication in a virtual environment. Items 26 and 27 examine the types of instruction or assistance available to students, enabling the distance learner to become familiar with the technology.

Admissions. According to the literature listed in Table 5.2, distance learners rely on student support services to provide clear, complete, and timely information on the curriculum, course and degree requirements. In postsecondary education, Admissions is usually responsible for providing information about the institution's programs, admissions policies, tuition and fees, refund policies, financial aid and other support services. The obligation to provide this information is derived from a number of sources such as accreditation criteria, state regulatory agency requirements or consortial agreements.

Items 28, 29, 30 and 33 on the coding sheet determine if colleges are using the Web to provide students with information on the curriculum and course or degree requirements. Evidence collected by Items 31, 32 and 44 indicates whether admissions criteria and guidelines are clearly stated and accessible to the distance learner. Items 34

and 35 examine the college's use of available technology to provide students with applications for admission. Evidence collected for Items 39, 40, 41 and 43 identifies the presence of information on financial aid, tuition and fees, and refund policies. The availability of admissions contact information is documented by Item 42.

Admissions also evaluates academic credentials for students entering the college and assigns credit for prior academic experience, credit earned by advanced placement testing, or other academic/work experience. Students may require assistance from other areas of support services such as academic advising or counseling for advanced placement testing or developing portfolios to demonstrate previous learning and work experience credit. Items 36, 37 and 38 determine whether students entering or leaving the program have access to information on credit transfer.

The literature also explains that participation in an orientation program is a critical factor in students' success and in their sense of connection with the institution, faculty and peers. Orientation sessions help distance learners understand their new learning environment. Students benefit from being informed about the rules and procedures of their distance class and expectations of their instructor. Furthermore, students enrolled in courses presented by distance technology such as videoconferencing require orientation programs where they have an opportunity to practice using equipment, ask questions, and become familiar with the technology. Finally, students enrolled in courses offered through a consortium require specific information about 'host' and 'recipient' responsibilities and availability of support services. Evidence collected by Item 44 documents a college's provision of orientation sessions for the distance learner.

Registration. The literature states that the registration process can smooth the entry of distance learning students to the college or act as a barrier. The sources listed in Table 5.2 identify several elements that contribute to the quality and success of the distance teaching and learning process. For example, colleges should provide students with access to registration at times appropriate for distance learners' needs, preferences and schedules. In addition, support staff should be available during registration periods to assist students with questions about the registration process or in solving problems with the technology.

Items 47 and 48 on the coding sheet examine whether clearly stated registration instructions and deadlines are accessible to distance learners. Items 46, 49 and 51 determine if colleges are providing access to registration at times appropriate for distance learners, and whether support staff is available to assist with registration. Evidence collected by Items 50 and 52 indicates that payment policies are clearly stated and that distance learners may use credit cards to pay tuition and fees.

Assessment, Advising, Counseling. The literature cited in Table 5.2 stresses that distance learners accepted for enrollment must have the background, knowledge and technical skills needed to undertake distance learning courses. **Assessment** programs are important in identifying students' abilities so that they can be placed, advised and counseled appropriately. Items 53 through 64 on the coding sheet collect data on the availability of assessment services that the literature indicates should be available for distance learners.

Students need support and direction to enable them to make a successful transition from traditional classroom based education to learner-directed distance education. In

particular, they need tools that will help them monitor their progress and obtain timely feedback on their activities. Item 63 determines if distance education programs are monitoring student progress. A significant concern in distance education is test proctoring – including policies regarding proctoring, staffing requirements, test material delivery and test retrieval. Furthermore, if distance education courses are to be taught off-schedule, or are not consistent with the regular course term, procedures must be put in place that will allow course completion records and grades to be posted at any time. Evidence documented by Items 60, 61 and 62 provides information on policies concerning test delivery and proctoring and grade posting.

It is also important for students to participate in the evaluative process -- both in terms of their own progress and the success of the courses or programs in which they are enrolled. Program evaluation is a critical component in evaluating student frustrations and successes. Item 64 examines whether distance education learners are provided an opportunity to evaluate the quality of instruction, curriculum and the distance education program.

The literature, summarized in Chapter 2, 3 and 4 and cited in Table 5.2, emphasizes the need for socialization in distance education. The literature identifies **advising and counseling** as essential components of distance education support services that act as part of an educational provider's strategy for connecting the student with institutional representatives, other students and/or individuals in the student's community or workplace. Advising and counseling includes a number of activities such as assisting students in identifying goals, developing a plan to achieve goals and identifying resources and services to help in meeting personal, academic or career goals. Secondly, advisors

and counselors provide information, encouragement, reassurance, support and feedback concerning a student's progress. Furthermore, this area of support services encourages active problem solving and, when appropriate, offers information about (and may assist with) contacting resources or services outside the organization.

Academic advisement is necessary to avoid students enrolling in distance learning courses without the benefit of testing to evaluate their chances of success. Academic advisement programs that are proactive in helping distance learners plan their degree programs reduce unnecessary confusion about distance degree options and requirements. Consequently, counseling and advising for short- and long-range degree planning, along with information on degree options and requirements, are essential to student success. Thus, this component of student support services is an important organizational strategy for increasing student retention. Finally, when academic planning encourages students to develop an awareness and understanding of prior learning and/or work experience, the process can provide a comprehensive picture of strengths, weaknesses, and experiences that may be used a means of awarding credit.

Distance learning students complete their coursework significantly faster when they have regular tutor contact. In mentoring programs, support services assist in establishing a relationship between an experienced and a less experienced person in which the more experienced person provides guidance, advice, support and feedback. In a distance education setting, consultation and mediation are effective ways to solve problems, improve the educational environment, and minimize potential roadblocks to learning. Consultation and mediation are types of conflict resolution used to assist with teacher-student or learner-learner disputes that are not easily resolved independently.

This component of student support services is of particular importance in a distance education setting where teachers and students of diverse cultural backgrounds communicate through a technologically based method of interaction.

The literature identifies a number of advising and counseling services that should be available to the distance learner. These services are represented by Items 65-76 on the coding sheet. Items 65 through 67 examine whether distance learners are provided with academic advising while evidence collected by Items 68 through 76 provide insight into the availability of the types of counseling services that ensure a quality educational experience.

Learning Resources. The literature notes that colleges must ensure that distance learners are provided with and have access to adequate library/learning resources and services to support the courses, programs and degrees offered. Access to electronic information should be available through existing technologies or through formal agreements, such as the Texshare program. Furthermore, electronic document delivery of materials, on-line databases and library catalogs enable students to acquire information and pursue research related to their courses of study. Finally, distance learners require access to required or supplemental course materials. Evidence collected for Items 77-82 on the coding sheet indicates if colleges are providing distance learners with access to information resources.

Other support services. Additional concerns identified by the literature as relevant to the distance learner include purchasing textbooks and supplies, support services provided in more than one language, student health insurance policies, and the hours services are available. Furthermore, distance classes requiring specific laboratory

facilities will need to assist students in making the necessary arrangements for use of local facilities. Items 83-87 on the coding sheet document the types of other support services available to distance learners.

METHODOLOGY

Research Purpose

The research purpose is both exploratory and descriptive. The research is exploratory in that it investigates the status of institutional World Wide Web sites, distance education programs and consortial or collaborative relationships at Texas two-year public community or technical colleges. The research is descriptive in that it assesses student support services provided for students enrolled in distance learning courses or programs and the methods of interaction or types of delivery systems used for providing services to distance learners.

Content analysis

Content analysis is the methodology selected to collect the empirical evidence to address the research questions. Babbie (1995, p. 306) defines content analysis as a researcher's examination of a class of social artifacts, typically written documents. Content analysis combines quantitative and qualitative techniques and can serve many different purposes. These include:

- comparison of media or levels of communication
- coding open-ending questions in surveys
- describing attitudinal/behavioral responses to communications
- revealing the focus of individuals, groups, institutions, or societies

- reflecting cultural patterns of groups, institutions or societies
- describing trends in communication content (Weber, 1985)

Although Web pages exist in a virtual environment, they are written documents. Therefore, they are appropriate for content analysis as defined by Babbie. Furthermore, content analysis is the most appropriate research design for this population because it is the most adaptable to a rapidly changing medium.

Strengths and Weaknesses of Selected Research Method. There are strengths and weaknesses associated with any research method, including content analysis. Babbie (1979, 252-53) lists the following as strengths of content analysis: economy, ease of use, unobtrusive, studies can be replicated, and content analysis allows for historical studies and comparisons. Babbie identifies the following as weaknesses of content analysis: limited to recorded communications and potential problems with validity. An additional disadvantage of content analysis is that it relies on the researcher to construct categories that are mutually exclusive (Holsti, 1969, 136).

Analysis of Web sites is an economical and unobtrusive method of evaluating postsecondary institutions' use of the technology to provide current and timely information about the teaching and learning process. The criteria listed in the coding sheet facilitate replication of the research and provide a basis for historical comparison.

There are, however, weaknesses inherent in the selected methodology. These weaknesses are due to the defined criteria and the nature of the selected population. The criteria are based on the literature, as well as guidelines provided by accrediting agencies, professional organizations or distance education consortia. However, the selection of

criteria is subjective in nature, based on the researcher's understanding of the literature. Furthermore, criteria are selected for their *combined* contribution to the quality and success of the distance education program. Consequently, some criteria may be considered as key components while others may be considered as significant, but not essential to the program's quality and success.

There are possible sources of error related to the population. Some pages may not be accessible or may not be available at the time of review. A second source of error is the possibility that a method of interaction or system of delivery utilized by the institution is incompatible with one or both browsers, Microsoft Explorer Version 4.0 or Netscape Navigator Version 4.5, used to search the Internet and institutional Web pages. Furthermore, the speed of delivery is influenced by the selected method of access. Research was conducted using either a 56K modem or an Ethernet connection and Windows 97. Students with different equipment or operating systems may not have the same experience accessing a college's Web site.

In addition to potential weaknesses related to the technology, the nature of distance education affects the validity of the study. The integration of the Internet and the World Wide Web into distance education programs at Texas community and technical colleges is relatively new. Consequently, the evolving nature of distance education, combined with the fluid nature of the Web, influences the *permance* of evidence documented by the study. In other words, colleges are updating and revising Web pages on an on-going basis. Thus, much of the data collected during the time the study was conducted may be valid for a limited amount of time.

Finally, it is important to note that a number of factors influences the types of services provided. These factors include maturity of each distance learning program; the financial and technological resources available to on-campus support services and the financial and technological resources allocated to non-traditional support services.

Population of study

This study analyzed 54 institutional Web sites for Texas public junior or community and technical colleges. Research was conducted September 20 – October 12, 1999.

Institutional Web sites. The Web sites are accessed through the Internet. Web sites consist of a home or main page on the site, internal and external pages. Internal pages are linked from the home page and developed by the institution. The home and internal pages on a postsecondary institution's Web site are developed and maintained to serve as access points to information about that particular community or technical college. External pages are linked from either the home or internal pages on the institution's Web site and are produced by entities outside the institution.

Community and technical colleges. Texas public junior colleges are defined as two-year institutions primarily serving their local taxing districts and service areas in Texas and offering vocational, technical, and academic courses for certification or associate degrees.[36] The Legislature has authorized the board of trustees of any junior college district to change the name of such district by substituting the word 'community' for the word 'junior'. The purpose of each community college is outlined by Education Code, Section 103.003 (e), and a college's primary service area population is defined in

SB 397. The Texas State Technical College System is defined as a coeducational two-year institution of higher education offering courses of study in technical-vocational education.[37]

Selection of Colleges for Study. Initially, 66 colleges and their Web sites were selected for this study. Following a preliminary review of institutional Web sites, 12 college Web sites were excluded from the study. The decision to exclude an institution from the study was based on a number of factors such as colleges within multi-campus districts sharing one Web site, a college's lack of accreditation or the status of the institutional Web site.

Two colleges were eliminated from the study because they are recently established institutions awaiting accreditation from the Southern Association of Colleges and Schools. The two colleges were Alamo Community College District's Northwest Vista and Texas State Technical College System's Marshall Campus. A third community college, Clarendon, was also eliminated from the study. The college's Web site is being revised and was unavailable for review at the time research was conducted.

While some multi-campus districts or systems share a common Web site, others maintain individual sites for each campus or branch within the system. Thus, the relationship of campuses or branches with the district's central administration led to further reduction in the number of Web sites selected for analysis. For example, Austin Community College District is comprised of six campuses and San Jacinto Community

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[36] Education Code, Subtitle G, Ch. 130, Subchapter A, Sections 130.0 011, 130.005(a)(b)
[37] Education Code, Subtitle G, Ch. 135, Subchapter A, Sect. 135.01

College includes three campuses. However, each district maintains one Web site with information relevant to the educational process at all campuses.

Similarly, Dallas Community College District has a central Web site with information relevant to all campuses. In addition to system-wide information posted on the central Web site, there are links to internal Web pages with information relevant to individual campuses. Consequently, content analysis was limited to the District Web site. Tarrant County Junior College District also maintains a central Web site with links to internal Web pages for individual campuses. A review of Web addresses or URLs for each campus in Tarrant County's district indicates that some colleges within the district are maintaining individual Web sites as well as sharing the central Web site. A review of the campus-specific Web sites indicated that information is primarily for students attending classes at the individual campus. Therefore, analysis was limited to Tarrant County District's central Web site. Another college eliminated from the study was Howard County College's Southwest Collegiate Institute for the Deaf. The Institute does not maintain a separate Web site; information is available on internal pages linked to Howard County College's Web site.

In contrast to the colleges previously described, each of the campuses within the Alamo Community College District (with the exception of Northwest Vista) is included in the study. Like Dallas and Tarrant County, Alamo Community College District maintains a central Web site with information relevant to all campuses. However, in addition to the District Web site, each campus has a Web site with internal pages for student support services specific to distance education courses offered by that campus.

Finally, the number of colleges included in the study was determined by information provided by an institution's central Web site. While North Harris-Montgomery Community College District includes four campuses, the central Web site indicates that only two campuses – Kingwood and Tomball – offer distance learning courses. Content analysis was limited to Web sites for the Kingwood and Tomball campuses.

The 54 colleges selected for analysis, along with each college's Web address (URL) and descriptive information such as student head count and number of degrees or certificates offered are listed in Appendix A.

Coding Sheet

Babbie (1979, 239) indicates that as a mode of observation, content analysis is an operation of coding in which the communications are coded and classified in terms of the conceptual framework. In other words, content analysis is a research method that is suited to descriptive categories. Consequently, a coding sheet, organized by the research questions, was developed for this research project. The coding sheet replicates the conceptual frameworks described in Table 5.1. **An example of the coding sheet is provided in Appendix B.**

Organization of coding sheet. The conceptual framework was used to develop a coding sheet comprised of five sections. Items listed on the coding sheet enable the researcher to identify and document whether specific types of information or services are available to distance learners. Evidence collected by the first section of the coding sheet -

- Texas public community and technical college Web sites – provides information on whether Texas public community and technical college Web sites are providing information about the teaching and learning process. Evidence collected by the second section of the coding sheet – distance education programs as part of the organizational structure – provides information about colleges that are offering distance education or that have established a separate operating unit to oversee the process of teaching and learning at a distance.

The third section of the coding sheet -- community and technical college participation in postsecondary collaborative relationships – provides evidence about a college's participation in consortial or collaborative efforts. A fourth section of the coding sheet is used to document which methods of interaction or systems of delivery are utilized for providing services. This section of the coding sheet – Method of Interaction or System of Delivery – focuses on two aspects of the institutional Web site. The first, Web page revision, provides information about how frequently institutions update information on the site. The second describes the asynchronous and synchronous technologies that may be used to provide access to support services to distance learners.

The fifth section of the coding sheet documents evidence related to student support services for distance learners. The elements included in this section represent a practical ideal type derived from best practices models, case studies and guidelines provided by accrediting agencies, professional organizations, or distance education consortia. According to Shields (p. 219), the practical ideal type can be viewed as a standard or point of reference that provides benchmarks with which to understand and improve reality. That is, the ideal may be developed to use as an assessment mechanism.

Consequently, the practical ideal type is useful because it provides a point of departure for policy recommendations.

The practical ideal type is generally organized by category (Shields, p. 219). Thus, the section of the coding sheet relevant to student support services is organized by the conceptual categories identified in the discussion of the conceptual framework and summarized in Figure 5.2. The categories, Information, Admissions, Registration, Assessment, Advising, Counseling, Learning Resources and Other, represent components of traditional campus-based student support services.

Method of Collecting Data

Content analysis is applied to the entire Web site to ensure consistency and to allow for variances in terminology. Research Questions 1, 2, 3 and 4 are descriptive in nature. Thus, evidence collected for Items 2 through 20 on the coding sheet describes the availability of specific types of information concerning the college and distance education. A value of 1-yes is assigned to each item that is available on the Web site; a value of 0-no is assigned if the item is not available.

Research Question 5 assesses or gauges the types of student support services available to the distance learner. Consequently, Items 21 through 88 determine if a service is available to the distance learner. Each item on the coding sheet is assigned a value of 1-yes or 0-no. Web sites with active links to an internal page describing services within the context of a traditional campus-based education setting are assigned a 'no' for that item. However, items that are accessible by active links from internal pages relevant to the distance learner such as a distance education home page are assigned a 'yes'. Secondly, items that are available by way of more than one non-print method of

interaction are assigned a 'yes'. Finally, items that are clearly identified as support services for the distance learner are assigned a 'yes'.

Measurement

A tally sheet was used to collect data for all items on the coding sheet. Data collected for Research Questions 1, 2 and 3 provide descriptive statistics, frequency distributions and percentages to indicate the availability of items related to the Institutional Web site, postsecondary distance education or consortial relationships.

Frequency distributions and percentages for Research Question 5 indicate the availability of support services for the distance learner. An assessment of the results gauges the availability of student support services that community and technical colleges should provide to the distance learner. In addition, information identifying consortial relationships, types of technology-based alternatives to student support services and revision dates of Web sites is documented.

SUMMARY

The population selected for research consists of institutional Web sites for Texas public junior or community and technical colleges. The empirical portion of this study is organized around five questions associated with types of information that may or may not be found at the Web sites. The questions are derived from essential aspects of organizational planning, structure and policy concerning distance education. Consequently, the issues outlined by the questions are relevant to the quality and success of a distance learning program. The questions are

1) Is each Texas public community and technical college Web site providing information about the teaching and learning process?

2) Are colleges offering distance education and providing information on the distance teaching and learning process?

3) Are colleges actively participating in consortial or collaborative efforts?

4) What methods of interaction or systems of delivery are used to provide support services for distance learning?

5) Are colleges' Web sites adequately providing access to support services that are appropriate to the distance learner's needs, preferences and schedule?

Some of the information sought is purely descriptive while Question 5 seeks to gauge or assess the type of support services available to distance learners through an institutional Web site.

Drawing on the literature, as well as guidelines provided by accrediting agencies, professional organizations or distance education consortia, a practical ideal type based on six conceptual categories was developed for this study. The practical ideal type consists of descriptive categories and key elements that represent types of student support services that *should* be available for the distance learner. Content analysis is the methodology selected to collect the empirical evidence and the coding sheet is organized according to the descriptive categories. The categories are Information, Admissions, Registration, Assessment, Advising and Counseling, Learning Resources, and Other Support Services. Evidence collected by elements on the coding sheet determines whether information or support services are available to the distance learner.

The following chapter, Chapter 6, presents the research results. Chapter 7 summarizes overall results and recommends issues for further study.

CHAPTER 6 - Results

Statement of Purpose

This chapter organizes and summarizes the data collected from content analysis of 54 Texas public community college and technical institute Web sites. Web sites were analyzed September 20 – October 12, 1999. The frequencies and percentages collected for each category is presented in a table form along with a brief summary. **Examples of Web pages are provided in this chapter and in Appendix E**. Pages were selected for content and purpose without regard to quality of Web page design. Consequently, the examples should be viewed only as representative of the types of services or information available to the distance learner, rather than as examples of the "best" choice among similar Web pages.

SUMMARY OF RESULTS

Is each Texas public community and technical college Web site providing information about the teaching and learning process?

The Internet, and especially its World Wide Web, offers tremendous resources for higher education. A college's Web presence serves a number of beneficial purposes by making available to students and the public accurate catalogs, official publications and other items relative to attending the institution or withdrawing from it. Although developing and maintaining an institutional Web site is expensive and labor-intensive, a college's Web presence expands the college's boundaries, disseminates current information and enables the institution to respond to competitors. In addition, a college's

Web presence increases opportunities to participate in consortia. Finally, establishing a Web site is the first step in developing a technological infrastructure for a distance education program.

Table 6-1 summarizes frequencies and percentages derived from content analysis of Web sites for 54 Texas public community and technical colleges.

Table 6-1

Texas Public Community and Technical College Web Sites

# Websites analyzed = 54	Frequency	Percentage
Institution has established a Web presence	54	100
Web site – statement of purpose	3	5
Institutional mission, goals, etc.	42	78
Information on accrediting agencies	24	44
Links to agencies' Web sites	1	2
Information on program-specific accreditation	8	15
Links to program accrediting agencies' Web sites	2	4
Faculty credentials	10	19

The data reveal that all two-year public community or technical colleges included in the study have established a presence on the World Wide Web. Furthermore, a very small number (3) includes a statement of purpose for the Web site. Finally, a large percentage (78%) provides information on the college's mission, goals or purpose.

College telephone directories list faculty telephone numbers, however, less than one-fifth of the college Web sites provides information about faculty credentials. The appearance and format of Web pages indicate that most of the colleges providing information on faculty credentials are transferring print-based information from the

college's catalog to the Web. However, a few colleges revised the print-based document for Web access. For example, Alamo Community College District lists credentials for full-time and adjunct faculty while Vernon Regional Junior College includes an e-mail link for each instructor.

Less than half (44%) of the colleges provides information on institutional accreditation and only a few colleges (15%) provide information on program-specific accreditation. Even fewer colleges provide links to accrediting agencies' Web sites (2% for institutional and 4% for program). While a number of colleges include accreditation information within the text of larger documents, Vernon Regional Junior College's link to accreditation information is easily found on the home page. In addition, the internal page is limited to information on the accrediting agency, enabling students and the public to access the information quickly. Two colleges provide college-specific accreditation information. Paris Junior College's Web site links to the college's SACS self-study plan and Temple College's site links to SACS survey results.

Although many colleges continue the formal appearance and language of printed publications, a few are using the Web's interactivity and multi-media capabilities to increase students' awareness of the college environment and philosophy. For example, Del Mar College provides information on the board of regents, and seven colleges provide information on the board of trustees. Vernon Regional Junior College links to a picture of the board of trustees and Houston Community College System's (see Example 6-1) and North Central Texas College's Web sites have pictures and biographical information for each trustee. Finally, colleges are using the technology to increase a student's feeling of connectivity with the college community and to enhance access to the

administration. The Web sites at Kilgore College and Paris Junior College are examples of home pages that display e-mail links enabling students to communicate directly with the college president's office.

Board of Trustees

Front row, left to right, Trustees Herlinda Garcia, Carol H. Smith, and Chancellor Ruth Burgos-Sasscer; second row, Trustees John Fonteno Jr., W.F. "Bill" Russell, and Bruce Austin; third row, Trustees Christopher W. Oliver and Abel Davila; top row, Trustees James R. Murphy and M. James Henderson.

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A VISION FOR THE FUTURE

The Board of Trustees envisions the Houston Community College System as:

- The educational institution of choice for those who seek skilled training for the workforce, those who seek to upgrade their skills to enhance preparedness for economic opportunity, and those wl seek lifelong seamless educational opportunities to enhance quality of life;
- An integral part of the economic and educational life of the community through quality partnerships and responsiveness to community needs; and
- An institution that is known for its quality and competency and f its commitment to an open environment that fosters trust and confidence.

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Are colleges offering distance education and providing information on the distance teaching and learning process?

The vast majority of institutions offering distance learning are traditional colleges and universities with on-campus students. In addition to traditional classroom instruction, the institutions provide some distance learning courses or operate distance education programs. The role and mission of a distance learning program must be consistent with the institution's role and mission and the program must design its programs and support services within the framework of the college or university's priorities. Table 6-2 summarizes frequencies and percentages relevant to the status of distance education courses and programs at community and technical colleges.

Table 6-2

Colleges Providing Distance Education

# Websites analyzed = 54	**Frequency**	**Percentage**
Information on distance learning courses, no distance education program	**23**	**43**
Statements identifying distance learning program as department within organizational structure	**21**	**39**
Colleges providing distance education	**44**	**82**
Program mission, philosophy, etc.	10	19
Program or course outcomes or objectives	7	13
Information on distance education regulatory or accrediting agencies	1	2
Links to agencies' Web sites	0	0
Description of expected learning outcomes	2	4
Explanation of faculty – student interaction	11	20

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Of the 54 Web sites analyzed, 44 colleges refer to distance education. There is almost equal distribution between colleges that offer distance education courses (43%) and colleges that indicate a department or unit functioning as a part of the organizational structure (39%). Most of the distance education programs' Web pages provide minimal information on the program's relationship to the college. For example, a program-specific mission was available on ten Web sites and seven colleges describe program or course outcomes or objectives. Furthermore, only one college provides information on regulatory or accrediting agencies and none of the colleges link to agency Web sites. Finally, a description of expected learning outcomes is available at two Web sites, and faculty-student interaction is explained at eleven Web sites.

Are colleges actively participating in consortial or collaborative efforts?

While some colleges and universities are developing their own distance education capacities by utilizing technology-assisted instruction, other institutions elect to provide distance education by combining their efforts in cooperative ventures or working within consortia or collaboratives. Consortia or collaboratives are cooperative pooling and sharing arrangements among institutions, where several colleges and universities join together through a statewide or regional network to offer distance learning programs. The authority to award degrees or credits is retained by the institutions and does not shift to the cooperative or consortia. A consortia of institutions offers a number of advantages to institutions including the ability to license instructional materials at lower rates, sharing the cost of representation before state and federal agencies and boards, enhancing

the ability to apply for grants, and the opportunity to specialize in certain functions or services.

In the preceding tables *N=54*, represented a population consisting of institutional Web sites for Texas public community and technical colleges. Forty-four of the Web sites indicate that the colleges offer distance learning courses or that a distance education program operates as part of the organizational structure. The purpose of this applied research project is to assess and describe activities and services in a postsecondary distance education setting. Consequently, **the population is narrowed to 44 Web sites that indicate participation in distance teaching and learning**. Table 6-3 summarizes community college participation in postsecondary consortial or collaborative relationships.

Table 6-3

Community & Technical College Participation in Postsecondary Consortial Relationships

# Websites analyzed = 44	**Frequency**	**Percentage**
Statements or internal Web pages indicating participation in a consortial or cooperative effort	7	16
No. of Web sites with links to consortia's Web site	9	20
No. of consortia participants with links to other members' Web sites	4	9
Explanation of consortial agreements; i.e., statements on co-enrollment, host/recipient, etc.	1	2

The data does not indicate that all two-year public community or technical colleges have established memberships in one or more intra-state institutional collaborations or inter-state relationships among institutions. This study does not consider the relationship between branch campuses within multi-campus districts as consortial relationships. The study evaluates membership in formal consortial agreements with educational providers operating independently from a college's administrative structure or legally defined district.

Seven distance education providers indicate participation or membership in consortial or collaborative efforts. However, nine colleges provide links to a consortial Web site; the discrepancy is due to two colleges linking to the Virtual College of Texas without providing any explanation of the consortia or the consortial relationship. Only four of the colleges that provide statements on consortial relationships link to one or more consortia members' Web sites. Brazosport College and Northeast Texas Community College are examples of colleges linked to the Virtual College of Texas (VCT). Brazosport provides a brief explanation of VCT's purpose, and Northeast Texas' page state the consortial agreement and purpose (see Example 6-2). Other types of consortial agreements include Austin Community College as a member of the Capital Area Tech Prep Consortium, Temple College's membership in the Central Texas Tech Prep Consortium, and Laredo Community College's participation in the South Texas Telecommunications Network (see Example 6-3).

Example 6-2
Northeast Texas Community College
Consortia Membership

Northeast Texas Community Col

Home | Up | Contents | Search

WebCT User's Guide | Virtual College

Virtual College of Texas
An Agency of the Texas Association of Community Colleges

NTCC is a proud member of the

Virtual College of Texas!

The mission of the Virtual College of Texas is to provide all Texans access via instructional technologies to quality instruction and support wherever they may live, regardless of geographic, distance, or time constraints.his paragraph contains a brief description of the product ...

Key Benefits

- **The Virtual College of Texas is a consortium of all accredited, public Texas community and technical colleges. It includes 50 community college districts and the three colleges of the Texas State Technical College system.**

- **Making the Most of Distance Learning Resources.** The basic VCT strategy is to share distance learning resources among its member colleges. These resources include their telecommunications infrastructure, courses, faculty, student services, and administrative support. This strategy will make it possible for students across the state to access a wide range of distance learning courses and services provided by colleges throughout Texas.
- Please contact Dr. Michael Dennehy for more information about online courses.mdennehy@ntcc.cc.tx.us
- or call 903-572-1911 extension 204

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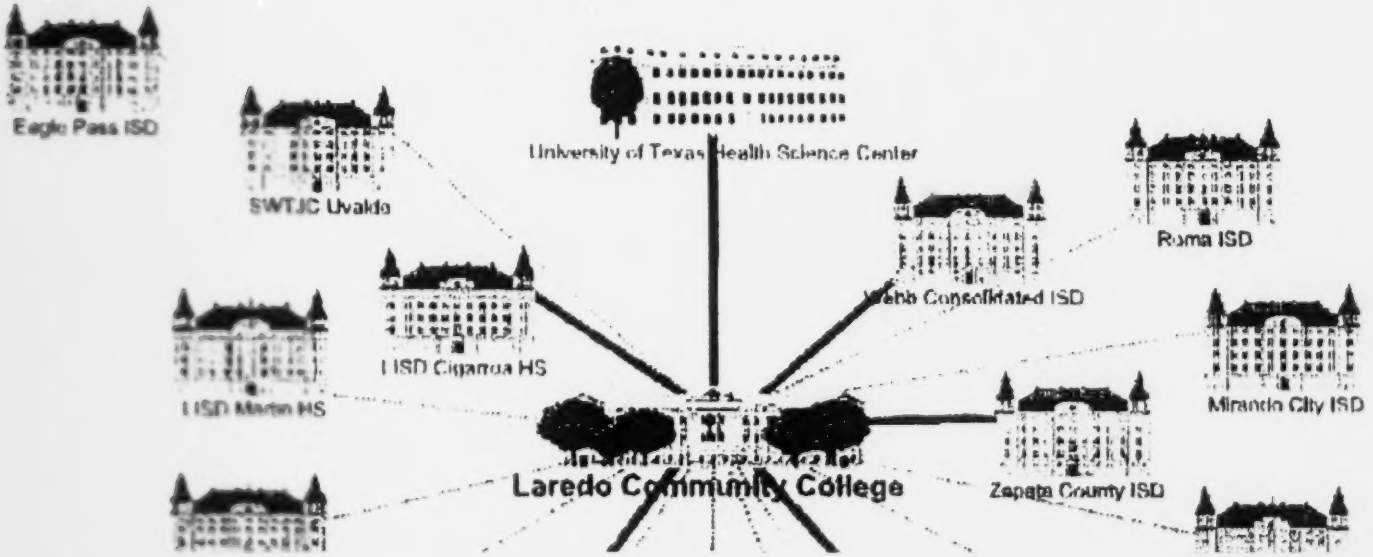
Consortium

South Texas Telecommunications Consortium

Laredo Community College Distance Learning Network



Example 6-3
Laredo Community College
Consortia Membership

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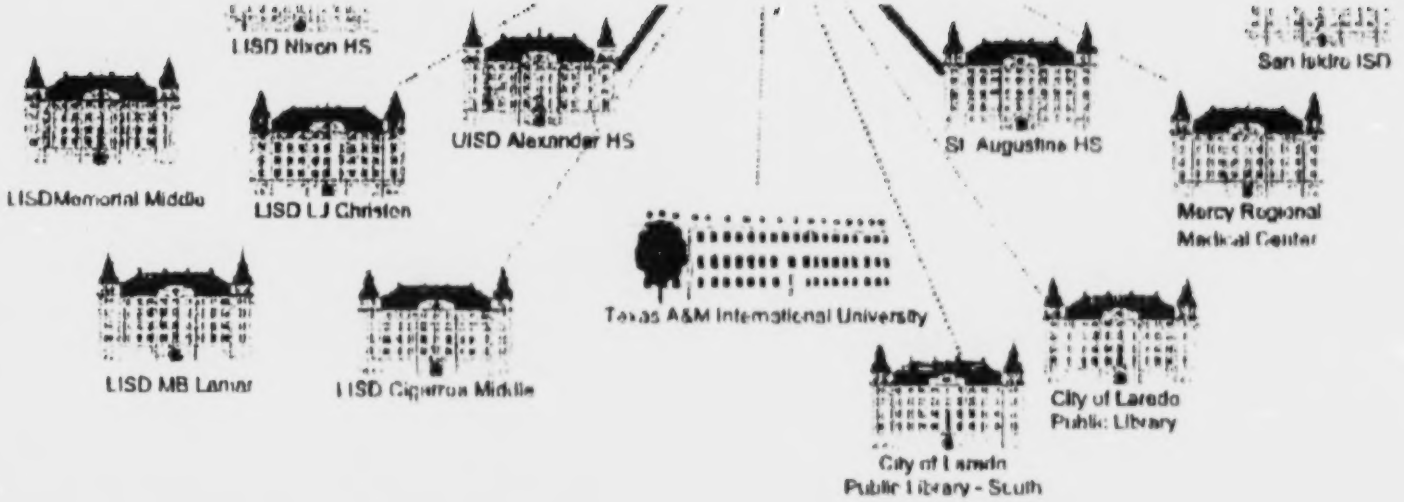

Send mail to rmcguire@laredo.cc.tx.us with questions or comments about this web section.

Example 6-3
Laredo Community College
Consortia Membership

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What methods of interaction or systems of delivery are used to provide support services for distance learning?

Education is based on interpersonal communication and governed by the rules of personal interaction. The separation of instructor and student distinguishes distance education from all forms of conventional, face-to-face, direct teaching and learning. Therefore, it is necessary to replace the interpersonal communication and interaction of conventional education by a variety of mechanical or technological means of communication.

An institution's commitment to providing appropriate use of technology to meet students' needs and learning styles is reflected in the methods of interaction or systems of delivery used to provide access to student support services. Interactive technologies enable colleges to maximize social interaction for the distance learner and a diverse selection of technology-based alternatives effectively adapt the method of interaction to a student's particular learning preference, schedule or special needs. Table 6-4 identifies the types of asynchronous and synchronous technology-based alternatives used by Texas public community and technical colleges to provide access to student support services for distance education.

Table 6-4

Methods of Interaction / Systems of Delivery Used by Community and Technical Colleges to Provide Access to Student Support Services

# of Web sites analyzed = 44

Support Service	Technology
Informational Services[38]	
Technical Support	E-mail On-line request forms Toll-free telephone number Web-based FAQs
Information on assumptions about technological competence, information management skills, and communication in a virtual environment	Hypertext documents (Web) Web-based FAQs
Log-on information, equipment requirements, guides and tutorials	Hypertext documents (Web) Web-based Power Point presentations
Opportunity to become familiar with system	Hypertext documents (Web) Web-based multi-media tutorials
Admissions	
Communication with staff	E-mail Mail On-line request forms Regional sites Telephone Toll-free telephone number
Course catalog, student handbook, academic requirements	Hypertext documents (Web) PDF Print
Explanation of course requirements, credit transfer, tuition and fees, financial aid	Hypertext documents (Web) On-line request forms PDF Print
Application for admission	Hypertext documents (Web) MS Word & Word Perfect On-line PDF Print
Orientation	Regional sites Hypertext documents (Web)

[38] A few colleges are using WebCT to provide information on technical requirements, learning styles, a distance learner's handbook and so on. At one community college, a distance education course linked to a publisher's Web site. Prentice-Hall offers access to a distance learner's handbook and other support services for distance education.

Table 6-4 cont.

Methods of Interaction / Systems of Delivery Used by Community and Technical Colleges to Provide Access to Student Support Services

Support Service	Technology
Registration	
Communication with staff	E-mail Mail On-line request forms Toll-free telephone number
Registration instructions, deadlines, payment policies	Hypertext documents (Web) PDF
Registration process	Mail On-line Telephone Toll-free telephone number
Assessment	
Communication with staff	E-mail Mail Toll-free telephone number
Placement, basic skills, learning styles, etc.	Hypertext document (Web)[39] Web-based FAQs
Testing policies	Hypertext document (Web) PDF
Grade posting	Telephone
Advising & Counseling	
Communication with staff	E-mail On-line request forms Telephone
Academic, career, etc.	Hypertext document (Web)[40]
Study skills, time management, etc.	Hypertext document (Web) Links to external pages Web-based FAQs Web-based Power Point presentations
Mentoring and Tutoring	E-mail On-line request forms

[39]Colleges are providing *information* about assessment services on the Web. A few colleges provide regional centers for testing or provide students the opportunity to arrange for off-site test proctoring. The majority of colleges, however, require students to visit the college campus to receive assessment services such as placement, student progress, and so on.

[40] Information about counseling and advising services is available on the Web. Distance learners at the majority of campuses are required to obtain services on-site.

Table 6-4 cont.

Methods of Interaction / Systems of Delivery Used by Community and Technical Colleges to Provide Access to Student Support Services

Support Service	Technology
Learning Resources	
Communication with staff	E-mail On-line request forms Telephone Toll-free telephone number
Library catalog	Online (Web) Telnet
Supplementary course materials	Hypertext documents and links to documents on the Web
Other Support Services	
Purchasing textbooks and supplies	E-mail On-line request forms Toll-free telephone number Telephone Web-based FAQs

Colleges are using technology-based alternatives to provide student support services. For example, a **toll-free telephone number** is an easily maintained, inexpensive method of access. Two distance learning programs, Brazosport College and Central Texas College, provide distance learners with technical support by way of toll-free numbers. Central Texas College includes one toll-free number for in-state callers and a second number for out-of state-callers.

Colleges are also using **PDF and HTML** to provide access to college catalogs and other college publications. Applications for admissions in PDF are available at College of the Mainland and Howard County Junior College District's Web sites.[41] A

[41] Ranger College, one of the ten colleges that do not provide distance education, offers PDF access to the college's application for admissions.

few colleges seem to have transferred publications to the Web without any changes to the print-based text. Consequently, the student is faced with searching all of the text with no pointers or navigational tools. Furthermore, the PDF documents require an Adobe acrobat plug-in, available for downloading from the Internet. The researcher used an Ethernet connection for downloading and found that, at many Web sites, the process took several minutes. A student with an older computer or 28K modem may find the time for downloading troublesome or that his or her system is not capable of managing a large document.

There are, however, colleges that have added **HMTL indexing** to their PDF documents and divided the publications into sections, facilitating downloading and enabling students to access selected parts of the text. For example, McLennan Community College provides a web-based version of the catalog with a table of contents and an index linked to sections of the text. The index seems to be taken directly from the print-based publication; however, the links eliminate the need to scroll through a lengthy document.

Some colleges, including Austin Community College and El Paso Community College, increase connectivity by providing **on-line request forms** (some appear to be Java-script). These forms make it possible for students to link to an internal page, request information, and return the form by **e-mail**. Texas State Technical College-Waco's request form includes a 'comments' box, enabling students to ask questions or request specific types of information not included on the checklist. On-line request forms also provide access to college bookstores, as noted in the section on other support services.

A **site search function** enables a student to enter a search query and quickly find

information on the college's Web site. Dell Mar College, Howard County Junior College District and North Harris Montgomery Community College District - Kingwood College, for example, provide site search functions at their Web sites. Other colleges, for example Northeast Texas Community College, provide **hyperlinked indexes or maps** to facilitate access. Indexes and maps are internal Web pages with alphabetical or subject arrangements of topics; each entry is linked to the relevant document on the Web site.

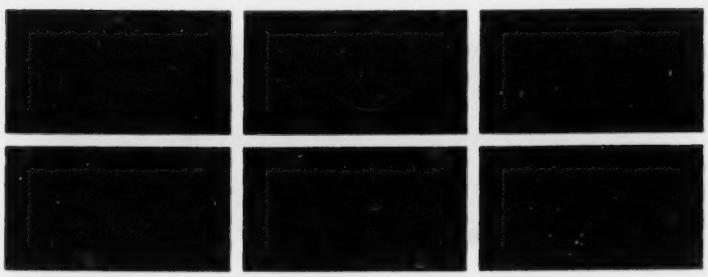
While some college library catalogs are available on the Internet (for example, Austin Community College, Dallas Community College District, Houston Community College System and Texas Southmost College), some catalogs are accessible by **telnet** connection. Examples include Alamo Community College District, Brazosport, College and Colin County Community College District. Del Mar College's library catalog is accessible on the Web and through telnet. Del Mar's explanation and instructions for telnet access are available in Example 6-4. Access to **electronic databases** and **Texshare** is available from a few library pages. However, some colleges (for example, Tarrant County Junior College and College of the Mainland), require students to enter a **password**. Students at Texas Southmost College and Austin Community College are required to configure their browsers as **proxy servers** before accessing on-line resources.

The Web sites display a variety of photographs, clip art, original drawings, etc. Secondly, many college Web sites are utilizing **Java script**. Finally, a number of colleges are using **frames** as part of the Web page design. Each of these technologies may prohibit access or prevent a student from accessing all the available information. For example, the graphics increase amount of time to load pages. Furthermore, the graphics or Java script may not be compatible with the technology available to the

student. Consequently, it is desirable for colleges to provide text-only versions of Web pages. Tarrant County Junior College and Lee College are two examples of Web sites with home pages that link to a **text-only version**, enabling students to access materials without graphics. This is especially helpful for students with older model computers, slower modems, or with visual difficulties.

Welcome To DMCNet
The Del Mar College Library
On-line Search Catalog

Choose a search method by clicking on one of the following buttons:



What is DMCNET?

It is Del Mar College's library search catalog. People are able to research all resources that are available within the library. One can conduct searches by Author, Title, Subject, Call Number or by Word search.

How to Access DMCNET from off campus

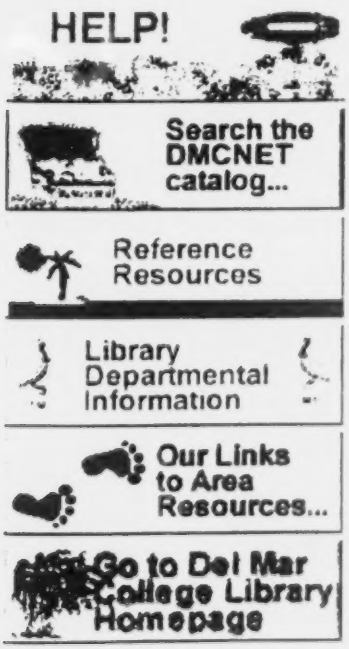
1. You need to have a modem and communications software. Communications software is a program like: Procomm, Wincomm, SmartTerm, or Microsoft's Terminal.

2. The phone number you enter in the software settings is **698-1971**.

3. Modem settings
   Baud rate=9600
   Data Bits=8
   Stop Bits=1
   Parity=None
   Flow Control=None
   If you get bounced out of your connection, or simply get a blank screen, check these settings.

4. Terminal Emulation should be: VT100, or similar, i.e. VT320. A no frills program like Terminal will display a good amount of "screen garbage," and keyboard problems. If so, once you are connected to DMCNET, use the **O**ptions menu to maneuver.

5. Del Mar's Help Desk phone number is: **698-1969** and is staffed during **Library Hours**



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It is important that Web pages are revised or updated frequently to insure students' access to current and timely information. All of the Web sites, including those at colleges that do not offer distance learning courses, were analyzed for **date of revision**. Dates vary for internal pages; consequently, data was collected from revision dates posted on a college's home page. Table 6-5 summarizes frequencies and percentages for revision dates of institutional Web sites.

Table 6-5

Revision Dates for Institutional Web Sites

# Web sites analyzed = 54				
Less than 3 months	**3-6 months**	**6 months – 1 year**	**More than 1 year**	**No date**
19 (35%)	13 (24%)	1 (2%)	1 (2%)	20 (37%)

Of the 54 Web sites analyzed, twenty provide either a copyright date or do not include a date on the home page. Of the remaining 34, a majority of institutional home pages was revised or updated within the last three months. Thirteen home pages were revised within the last six months. Only one home page indicates a revision date of 1998, and a telephone interview with the Web master revealed that the college has developed a job description, is providing funding for a full-time position to maintain the Web site, and is currently accepting applications.

Are colleges' Web sites adequately providing access to support services that are appropriate to the distance learner's needs, preferences and schedule?

The descriptive categories, Information/Technical Support, Admissions, Registration, Assessment, Advising, Counseling, Learning Resources and Other Services,

represent components of traditional campus-based student support services. The elements of student support services selected for analysis are derived from the literature summarized in Chapters 2, 3 and 4. These elements are identified as components of student support services that *should* be available to distance learners.

The following pages discuss the individual components of support services for distance learners, summarize the evidence collected for each component and provide examples of Web pages from college Web sites. Pages were selected for content and purpose without regard to quality of Web page design. Consequently, the examples should be viewed only as representative of the types of services or information available to the distance learner, rather than as examples of the "best" choice among similar Web pages. **Additional examples are provided in Appendix E.**

Information/Technical Support

In a distance education environment, learners may be required to have specific skills to enroll in the program or specific courses. For example, the use of online learning resources requires information management skills -- the ability to go online, retrieve and evaluate information. Secondly, students using electronic resources should be aware of ethical issues such as copyright and intellectual property ownership. Finally, distance learners may have concerns about confidentiality and privacy or interacting with students from different cultures when using e-mail or discussion lists.

Distance learners rely on student support services for providing relevant information before enrollment. Therefore, assumptions about technological competence

and skills, along with information about communication in a virtual environment, should be clearly stated and available for review. Table 6-6 summarizes frequencies and percentages on colleges' provision of information concerning assumptions about technological competence and skills and communication in a virtual environment.

Table 6-6

Student Support Services – Information/Technical Support

# Websites analyzed = 44	**Frequency**	**Percentage**
Essential to distance learner's success		
Technical support staff	5	11
Assumptions about technological competence and skills	7	16
Log-on information, communications parameters, technical equipment requirements	4	9
Information management skills – going online, retrieving and evaluating information	6	14
Important factor in distance learner's success		
Guides, tutorials, instructions for using technology	5	11
Opportunity to practice sending and receiving files, becoming familiar with system	1	2
Helpful to the distance learner		
Ethical how-to's; confidentiality; privacy	5	11
Number of colleges that do not provide any informational types of support services	**32**	**73**
Number of colleges providing 1-3 services	7	**16**
Number of colleges providing 4-7 services	5	**11**

Each of the criteria listed is important to a distance learner's successful completion of a distance education course or program. The most **essential** or key factors, however, are the availability of technical support staff, information on assumptions about

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technological competence, technical equipment requirements and information management skills.

Of the 44 colleges offering distance education courses and/or identifying a distance education program as an operating unit, five provide technical support staff for distance learners. Brazosport College and Central Texas College provide support on-line, through toll-free numbers and by e-mail. Brazosport's internal pages clearly state the hours services are available, and Central Texas's Web page for technical support encourages students to call anytime day or night. Grayson County's distance education page provides a link for students to ask questions by e-mail, and explains that the college plans to provide technical support for Internet students via a telephone hotline.

Only 16% of the colleges provide information about the technological competence or skills that a student must have before enrolling in a distance education course. Brazosport College offers a flow chart, enabling students to answer questions about their skills and available technology (see Example 6-5). Students' answers direct them to choose Internet-based courses, telecourses, or to attend class on-campus.

Six colleges provide assistance or information on skills **essential** for distance learning – going on-line and retrieving and evaluating information. Similarly, four colleges provide log-on information, communications parameters and technical equipment requirements.

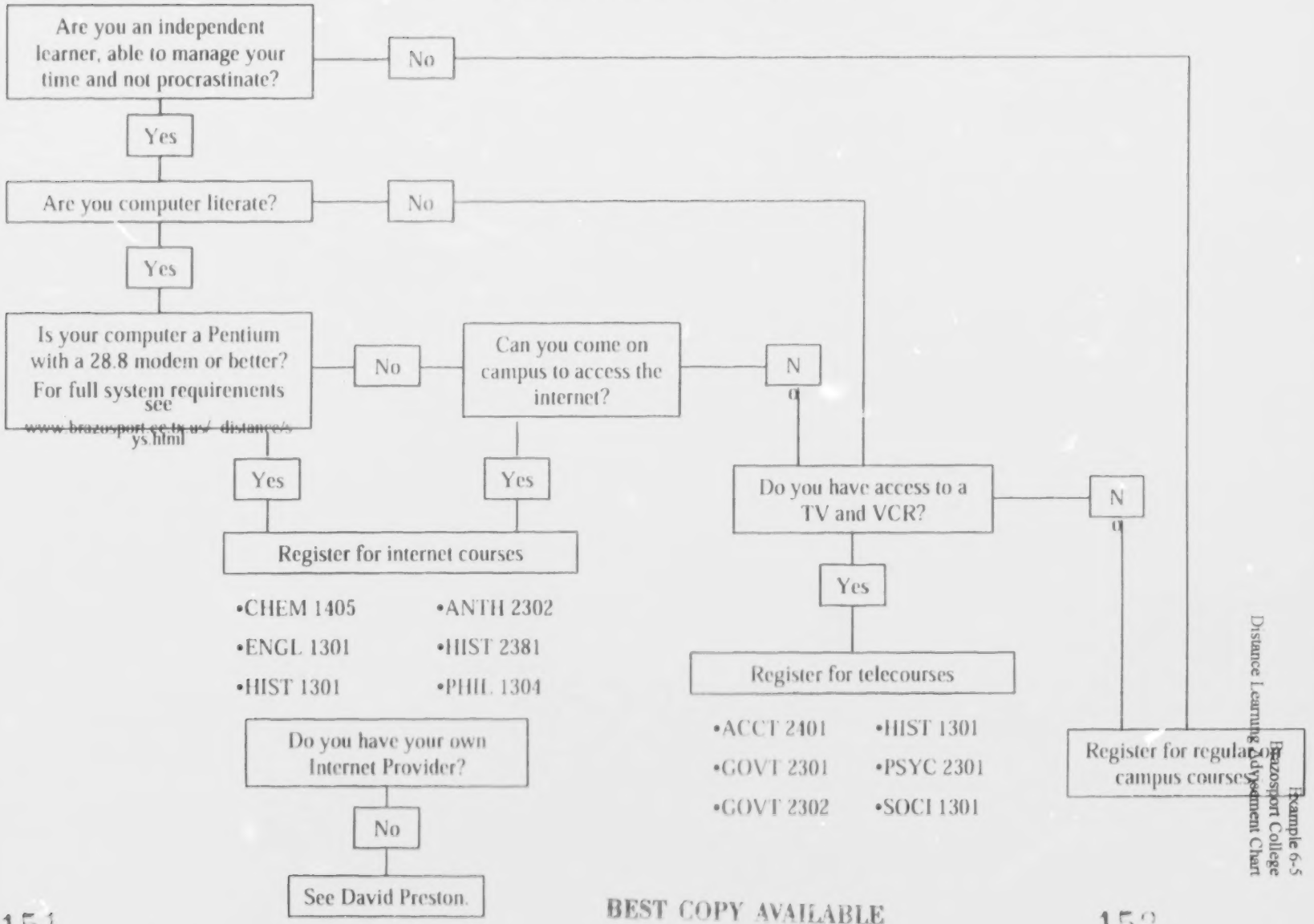
It is **important** that guides or tutorials and the opportunity to develop familiarity with the system be made available for students to access on an optional basis; however, these factors are not as crucial to the distance learner's success. The number of colleges providing guides, tutorials and instructions for using the technology is similar to that for

other categories (11%). Only one college provides distance learners with an opportunity to practice sending and receiving files or attain familiarity with the college's system of delivery. Distance learners reviewing Web pages at Central Texas College and Tarrant County Junior College will find a 'sample' on-line course.

Assistance with browsers is available at two colleges. El Paso Community College offers students guidelines for testing their browser to determine whether the student's system of delivery is compatible with that of the college. On the Brazosport College Web site, on-line guides offer screen captures of Netscape, enabling students to see real-world examples along with the text. Some colleges elect to use products developed outside the institution. For example, North Harris Montgomery Community College District-Kingwood uses WebCT, developed by the University of British Columbia, to provide distance learners with guides and tutorials.

One additional factor, communicating in a virtual environment, may also be **helpful** to the distance learner's successful completion of the course or program. Information concerning ethics, confidentiality and privacy was available on five Web sites.

Brazosport College Distance Learning Advisement Chart
Fall 1999 Internet & Telecourses



Example 6-5
Brazosport College
Distance Learning Advisement Chart

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Admissions

In postsecondary education, Admissions, a component of student support services, is usually responsible for providing, through publications or personal interaction, information about the institution's programs, admissions policies, financial aid and other support services. Admissions evaluates academic credentials for students entering the college and assigns credit for prior academic experience, credit earned by advanced placement testing, or other academic/work experience. Students exiting the program and planning to transfer from a two-year college to a four-year college have particularly specific needs for program planning. Students need to know exactly what is required for transfer and what options exist for fulfilling these requirements.

Students interested in enrolling in a distance education course or program may have questions about the cost of tuition, related fees and financial aid services. Admissions must provide information about the institution's policies concerning tuition and fees, refund policies, and financial aid. The Coordinating Board requires that access to financial aid counseling and financial support be available to distant learners without prejudice to their distant status. Furthermore, the Coordinating Board requires that any supplemental fees charged by institutions for distance learning should be appropriate to the services provided. For example, distant learners should not be charged fees for services that are clearly related only to on-campus activities, programs or services. An institution's membership in a consortium brings additional concerns regarding tuition and fees – for example, to which institution does the student make payment? Each of these concerns must be clearly addressed in the information made available to students and the public.

Participation in an orientation program is a critical factor in students' success and in their sense of connection with the institution, faculty and peers. Orientation sessions help students understand their new learning environment. Students benefit from being informed about the rules and procedures of their distance class and expectations of their instructor. Furthermore, students enrolled in courses presented by distance technology such as videoconferencing require orientation programs where students have an opportunity to practice using equipment, ask questions, and become familiar with the technology. Finally, students enrolled in courses offered through a consortium require specific information about 'host' and 'recipient' responsibilities and availability of support services.

Colleges with distance degree programs should provide general orientation sessions that help students understand themselves as learners and their new learning environment. Orientation programs may be offered at a variety of times: 1) following admission but before registration for all students admitted to degree programs; 2) around the time of registration; and 3) following registration for all students enrolled in distance learning options. Some colleges and universities offer videotape copies of orientation sessions. Table 6-7 summarizes frequencies and percentages on the types of publications and services that address distance learner's questions about the college's programs, admissions policies, financial aid or other support services.

Table 6-7

Student Support Services – Admissions

# Websites analyzed = 44	Frequency	Percentage
Essential to distance learner's success		
Course guide or catalog	31	70
Criteria for admissions	25	57
Additional admissions criteria for distance learners	5	11
Course or degree requirements	17	39
Explanation of credit transfer for new students	18	41
Explanation of credit transfer specific to distance learning	3	7
Explanation of credit transfer for students leaving program	8	18
Explanation of tuition and fees	25	57
Comparison of campus-based and distance education costs	3	7
Refund policies	12	27
Statements on admissions contacts / resource personnel	22	50
Deadlines clearly stated	14	32
Orientation	6	14
Important factor in distance learner's success		
Academic calendar	34	77
Student handbook	13	30
Application – Institution	15	34
Application – Texas Common	2	5
Financial aid	32	73
Number of colleges that do not provide Admissions support services	**2**	**5**
Number of colleges providing 1-6 services	**23**	**52**
Number of colleges providing 7-12 services	**18**	**41**
Number of colleges providing 13-18 services	**1**	**2**

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This component of student support services includes several key criteria that are essential to a successful distance learning experience. The **essential** criteria include provision of course guide or catalog, criteria for admission, course or degree requirements, information on credit transfer, information relevant to tuition and fees, contact information, clearly stated deadlines, and orientation for the distance learner.

Nearly three-fourths of the Web sites analyzed provide a course guide or catalog. One-half of the colleges provides distance learners with Admissions contact information. In contrast to the number of sites providing a college catalog, about one-third of the colleges provides access to course or degree requirements. Although 25 colleges provide an explanation of tuition and fees, Web sites offer limited information on related concerns. For example, refund policies are available on twelve Web sites, and deadlines on 14 sites.

Admissions criteria and credit transfer information relevant to all students is limited to a small number of Web sites. Eighteen colleges provide an explanation of credit transfers for new students and eight colleges provide an explanation of credit transfer for exiting students. Only one college, Lee College, refers to home schooling in the discussion of credit transfer. Admissions criteria and credit transfer information specific to distance learning is also limited to a few Web sites. For example, five colleges list additional admissions criteria for distance learners, three colleges provide information on credit transfer specific to distance learning and three colleges include a comparison of campus-based and distance education costs. Most colleges require distance learners to attend orientation on campus. However, six colleges provide orientation targeted to distance learning.

The provision of an academic calendar, access to the student handbook, the academic calendar, information on financial aid and an application for admissions are **important**, but not key factors, in distance learning. Nearly three-fourths of the Web sites analyzed provide an academic calendar, and information on financial aid. About one-third of the college Web sites provides access to the student handbook. Fifteen colleges provide access to the application for admissions. College of the Mainland and Howard County Junior College District are examples of colleges with applications in PDF (see section on Method of Interaction/System of Delivery). Students may download Central Texas College's application in Microsoft Word or WordPerfect format, enabling students to use word processing to complete the application. Odessa College is one of two colleges providing access to the Texas Common application. The second college, Central Texas, provides a college-specific, the Texas Common and a distance learning application.

Registration

Students who successfully apply and meet the college's criteria for admissions are eligible to register for classes. At some colleges, the registrar's office, a component of student support services handles registration for both on-campus and distance learning courses. The registration process can smooth the entry of distance learning students to the college or act as a barrier. Many colleges and universities keep distance learning course registration open longer than on-campus course registration. Furthermore, registration of distance learners can be facilitated by specific procedures such as mail-in registration, registration by toll-free number, evening or weekend registration, and payment by credit card. In response to distance learner's needs, some institutions have

restructured their programs to perform rolling registration, allowing for year-round enrollment. Table 6-8 summarizes the frequencies and percentages on college policies concerning registration for distance learners.

Table 6-8

Student Support Services - Registration

# Websites analyzed = 44	Frequency	Percentage
Essential to distance learner's success		
24 hour registration	2	5
Registration instructions	8	18
Registration deadlines	11	25
Support staff available during registration	5	11
Important factor in distance learner's success		
Payment policies	5	11
Helpful to the distance learner		
Year-round registration for distance education	1	2
Payment by credit card	3	7
Number of colleges that do not provide Registration services	**26**	**59**
Number of colleges providing 1-3 services	**17**	**39**
Number of colleges providing 4-7 services	**1**	**2**

Colleges should provide registration at times that are appropriate for distance learners' needs and schedules. Consequently, the times that registration is available may serve as a barrier to enrollment. Two colleges provide registration on a 24-hour schedule.

In addition to the time registration is available, access to the registration process, clearly stated instructions and support staff during registration are **essential** factors in a successful distance learning experience. Registration on the Internet is available at Alamo Community College District and Tarrant County Junior College. Students may

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register by telephone at Austin Community College, El Paso Community College and McLennan Community College. Eight college Web sites offer registration instructions and eleven list registration deadlines. Support staff during registration is available at five colleges.

Clearly stated payment policies are not crucial to the distance learners' success, however, they are an **important** part of support services for distance education. Only a few colleges (5) provide distance learners with clearly defined payment policies. The distance learner may find the remaining services, year-round registration and payment by credit card, **helpful**. Three Web sites indicate that students may make payments by credit card while one college Web site indicates registration is available year-round.

At some college Web sites, internal pages for Registration were 'closed' until the next registration period. Consequently, information on the registration process was not accessible at the time research was conducted.

Assessment, Advising and Counseling

Pre-enrollment **assessment** is important in identifying distance learners' abilities so that they can be placed, advised and counseled appropriately. Although most community colleges use standardized tests, some may add their own testing procedures.

Policies about the assessment of prior credits and the transferability of credits also are needed for distance degree programs. Because the majority of distance students are also adult students, their prior academic record may include courses taken many years earlier. Students may also bring to academic life considerable experience from personal and work situations that may relate to the amount of credit they bring to the program.

Students need support and direction to enable them to make a successful transition from traditional classroom based education to learner-directed distance education. In particular, they need tools that will help them monitor their progress and obtain timely feedback on their activities. Performance assessment requires students to demonstrate what they know.

The college may find it necessary to implement new forms of assessment and evaluation to insure that the student's work is original and authentic. In some cases, students may be required to complete a portfolio to demonstrate they have successfully met learning objectives. Portfolio assessment is a type of performance assessment that involves gathering multiple indicators of student progress.

Test proctoring – including policies regarding proctor staffing requirements, test material delivery and test retrieval – is especially important in distance education. Secondly, if distance education courses are to be taught off-schedule, or are not consistent with the regular course term, procedures must be put in place that will allow course completion records and grades to be posted at any time. Finally, in consortial or collaborative efforts, test proctoring policies must be agreed to by all consortia members prior to course implementation.

Distance learners can be important contributors to the evaluative process. Assessment of student attitudes and perceptions can be used to identify and changes those areas of a program that are found to produce negative reactions. Consequently, support services can provide the institution with information about the student that will ensure a successful learning experience and assist with refining policies and procedures for the distance learning program.

The data for assessment, advising, and counseling is presented in two tables. Table 6-9 summarizes frequencies and percentages for Assessment.

Table 6-9

Student Support Services - Assessment

# Websites analyzed = 44	**Frequency**	**Percentage**
Essential to distance learner's success		
Placement	4	9
Basic skills	3	7
Student progress	0	0
Clearly defined guidelines on testing policy	2	5
Information on test delivery / proctoring	2	5
Important factor in distance learner's success		
Learning styles	1	2
Real-world experience	1	2
Communication skills	0	0
Proficiency exams (CleP)	2	5
Performance based (portfolio)	0	0
Student's comments on program	2	5
Helpful to the distance learner		
Grade posting	1	2
Number of colleges that do not provide Assessment services	**38**	**86**
Number of colleges providing 1-6 services	**6**	**14**
Number of colleges providing 7-12 services	**0**	**0**

Almost all of the college Web sites link to an internal page that refers to the assessment process. However, this component of student support services provides few off-campus services for the distance learner.

Placement and basic skills assessment, assessment of student progress and clearly defined information on test proctoring are **essential** factors in insuring a quality distance

learning experience. Four college Web sites discuss placement testing for the distance learner and three colleges offer basic skills testing.

Assessment of learning styles, real-world experience, communication skills, advanced placement, and the development of portfolios, are **important**, but not essential to the distance learning process. Central Texas College provides distance learners with information on learning styles and real-world experience assessment. Information about communications skills assessment, performance based (portfolio) assessment for the distance learner or monitoring student progress are not available on the college Web sites analyzed. Similarly, a distance education student will find information on proficiency exams available at only two college Web sites, Amarillo College and Alamo Community College District's St. Phillips College. Finally, two college Web sites provide the distance learner with information on test delivery/proctoring or provide clearly defined guidelines on testing as part of the distance teaching and learning process.

Assessing students' satisfaction with the instruction, curriculum and program is also an **important** factor in the distance teaching and learning process. Only two Web sites provide students with an opportunity to provide feedback about their educational experiences. One of the Web sites, at Kingwood College, in the North Harris Montgomery Community College District, has a detailed evaluation form and **an example is provided in Appendix E**.

Information on grade posting is **helpful**, but not essential, to the distance learner's success. Only one college, Central Texas, provides information relevant to grade posting.

The **advising and counseling** component of student support services is an important organizational strategy for increasing student retention. The objective of support services is to meet student needs inside and outside of the classroom. Distance learners may stop participating in course activities or drop out of classes or programs because of the pressures of meeting the challenges of every day life. Counselors and advisers can provide valuable services by helping students identify their needs, offering support in addressing them, and making effective referrals to the appropriate campus or community service or program. Mentors, counselors, instructors, support service specialists, and academic advisors work together to refer students as needed to specific services or programs that address expressed concerns.

Advising and counseling includes a number of activities such as assisting students in identifying goals, developing a plan to achieve goals, and identifying resources and services to help in meeting personal, academic or career goals. Secondly, advisors and counselors provide information, encouragement, reassurance, support and feedback concerning a student's progress. Finally, this area of support services encourages active problem solving and, when appropriate, offers information about (and may assist with) contacting resources or services outside the organization. Table 6-10 summarizes frequencies and percentages for Advising and Counseling.

Table 6-10

Student Support Services – Advising & Counseling

# Websites analyzed = 44	Frequency	Percentage
Essential to distance learner's success		
Academic	2	5
Degree Planning	2	5
Comparison DL & traditional education	0	0
Mentoring	0	0
Tutoring	4	9
Important factor in distance learner's success		
Career	2	5
Mediation with Instructor	0	0
Study Skills	4	9
Time Management	4	9
Learning difficulties	1	2
Helpful to the distance learner		
Success rate of previous distance learners	0	0
Referral services	3	7
Number of colleges that do not provide Advising & Counseling services	**32**	**73**
Number of colleges providing 1-6 services	**10**	**22**
Number of colleges providing 7-12 services	**2**	**5**

The frequencies and percentages for Counseling and Advising are similar to those found for Assessment. That is, most college Web sites refer to student support services available on campus. There is, however, limited access to advising and counseling services for the distance learner. Elements in advising and counseling that are **essential** to a quality distance learning experience are academic advising and counseling, comparison of distance learning and traditional education, tutoring or mentoring for the distance learner. Two college Web sites provide information on degree planning or

academic planning within the context of distance learning. None of the Web sites analyzed provide access to a comparison of distance learning with traditional education.

Career counseling, mediation with the instructor and assistance with study or time management skills and learning difficulties are **important** components of student support services. Career counseling for the distance learner is available at two colleges. Four colleges provide the distance learner with information on study or time management skills. Coastal Bend College's Learning Assistance Center offers text-only or Power Point tutorials on a variety of study skills, including time management, note taking and test taking. One college provides assistance with learning difficulties. None of the colleges provide information on mentoring, however, four colleges provide information on tutoring. None of the Web sites analyzed provide distance learners with information on mediation with an instructor[42]

Providing students with information about the success rate of previous distance learners and referral services are **helpful**, but not crucial components of the distance education process. None of the Web sites analyzed provide access to information on the success rate of previous distance learners. Three Web sites indicate the college provides referral to outside assistance.

While many of the colleges provide minimal information for the distance learner, they do provide pictures of staff members, indicating an awareness of the importance of connectivity with the student. Furthermore, a few colleges provide testimonials from former students. Pictures of students, along with brief biographical information, and

[42] Navarro College does not provide counseling and advising at a distance, thus the college's support services are not included in the table of frequencies and percentages. It is important to note, however, that Navarro refers to mediation as part of support services.

comments on their educational experiences increases awareness that working mothers, adult learners, and 'non-traditional' students have succeeded in meeting their educational goals.

Learning Resources

Institutions that provide distance education must ensure the provision of and ready access to adequate library/learning resources and services to support the courses, programs and degrees offered. Electronic document delivery of materials, on-line databases and library catalogs enable students to acquire information and pursue research related to their courses of study. Consequently, the college must provide access to electronic information, either through existing technologies on-site or through participation in formal resource sharing agreements. One example of a formal agreement is Texshare, a cooperative program of the Texas Higher Education Coordinating Board. The focus of the program, efficient sharing of library collections, emphasizes electronic information resources as well as traditional collections of books and journals. The program includes public community colleges and independent colleges and universities. Table 6-11 summarizes frequencies and percentages of learning resources provided for distance learners.

Table 6-11

Student Support Services – Learning Resources

# Websites analyzed = 44	Frequency	Percentage
Essential to distance learner's success		
Library catalog	31	70
On-line full-text databases	21	48
Electronic document delivery	14	32
Supplementary course materials	3	7
Important factor in distance learner's success		
Texshare participant	29	66
Helpful to the distance learner		
Required texts	0	0
Number of colleges that do not provide Learning Resource services	**9**	**21**
Number of colleges providing 1-3 services	**23**	**52**
Number of colleges providing 4-6 services	**12**	**27**

Nearly all of the criteria listed are **essential** to the distance learning process. A library's participation in Texshare is an **important** factor, enabling libraries to provide a wide range of resources as well as document delivery. Access to required texts, while **helpful**, is not an essential factor for distance learners' success.

Nearly three-fourths of the Web sites analyzed provide access to the college's library catalog.[41] Approximately one-half of the colleges provided access to on-line full-text databases. Two-thirds of the colleges indicate their participation in Texshare. Electronic document delivery is available at 14 of the college Web sites, primarily

[41] Ranger College is one of 10 colleges that do not offer distance learning courses. The Goleman Library has created an on-line 'reference shelf' -- links to Internet-based dictionaries, thesaurus, maps, and other resources.

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through Texshare databases. Supplementary course materials are available at three learning resource services, however, none of the Web sites provide information about the availability of required texts.

Panola College's M. P. Baker Library demonstrates an awareness of the distance learner's needs and concerns. The library's Web pages seem to be in transition or under construction; however, the pages in place provide examples of the types of information useful to a distance learner. For example, there is a link labeled 'distance learning students' on the library's home page. The internal page summarizes services the library provides for distance learners and describes how students may access or acquire materials from a distance. The library's Web page also offers an on-line 'how to use the Internet' Power Point presentation (there is no link for a text-only version). The library at Victoria College provides access to information for students off-campus as well. The library's electronic reserve service provides course-specific information and lists resources in a variety of formats. In addition, the library lists supplementary course materials with links to documents available on the Internet.

There may be additional examples of services that are not available to the researcher. Several libraries require passwords or PIN numbers and access is limited to enrolled students.

Other Support Services

Additional concerns relevant to the distance learner include purchasing textbooks and supplies, support services provided in more than one language, student health insurance policies, and the hours that services are available. Furthermore, distance

classes requiring specific laboratory facilities will need to assist students in making the necessary arrangements for use of local facilities. Table 6-12 summarizes data on additional services provided for distance learners.

Table 6-12

Other Student Support Services

# Websites analyzed = 44	**Frequency**	**Percentage**
Essential to distance learner's success		
Hours services available	10	22
Purchasing textbooks and supplies	9	20
Laboratory facilities	1	2
Important factor in distance learner's success		
Regional centers	15	34
Helpful to the distance learner		
Languages other than English	2	5
Student health insurance	3	7
Number of colleges that do not provide other student support services	**21**	**48**
Number of colleges providing 1-3 services	**22**	**50**
Number of colleges providing 4-5 services	**1**	**2**

Three factors, the hours services are available, purchasing textbooks and supplies, and laboratory facilities are **essential** to a successful distance learning experience. Ten of the colleges clearly state the hours that support services were available. Nine colleges provide distance learners with the opportunity to acquire textbooks and supplies from the college bookstore. Distance learners enrolled at Austin Community College and Blinn College may order textbooks by telephone. The Web sites at Dallas Community College District and Tyler Junior College provide on-line request forms for students to purchase

course materials. One of the nine colleges (Tyler) offers off-site acquisition of textbooks by routing student requests through a commercial vendor's Web site. One college provided information on laboratory facilities for the distance learner.

Regional centers are **important** to distance learners enrolled in courses delivered by videoconference. Regional centers may also be of importance for students enrolled in courses offered through consortial or cooperative efforts. Several of the colleges analyzed are multi-campus systems; however, fifteen colleges referred to regional centers specifically for providing distance education courses.

It is **helpful**, but not essential, for college Web sites to provide information in languages other than English. All of the college Web sites are primarily in English. However, two colleges (Grayson College and Laredo Community College) did provide one (or a portion of) internal page in Spanish. Distance learners may also find it helpful to participate in a college student health insurance program. Three colleges provide information concerning student health insurance.

SUMMARY OF CHAPTER

This chapter organizes and summarizes the data collected from content analysis of 54 Texas public community college and technical institute Web sites. Web sites were analyzed September 20 – October 12, 1999. All of the colleges included in the population have established a Web presence. Of the 54 Web sites analyzed, 44 colleges refer to distance education, with almost equal distribution between colleges that offer distance education courses and colleges that indicate a department or unit functioning as a part of

the organizational structure. Only 16% of colleges providing distance education indicate participation in a consortial or cooperative effort.

Community and technical colleges are using technology-based alternatives to provide student support services. E-mail and Web-based services such as on-line request forms and tutorials combine with the more traditional technologies such as toll-free telephone numbers to provide students with student support services.

Evidence indicates that Admissions is providing the distance learner with current information on the educational process. Another area of support services, Learning Resources, is provided by a majority of colleges offering distance education. Approximately one-half of the colleges provides other support services such as the opportunity to purchase textbooks and supplies and the hours that services are available.

However, some student support services for the distance learner are minimal. Only a few colleges provide information on technology requirements, assumptions on technical skills, and communication in a virtual environment. Registration services are limited to slightly over one-third of the colleges offering distance education. Similarly, Assessment services are limited to a very small percentage (14%) of the colleges providing distance education. Finally, counseling and advising, a crucial link between the distance learner and the institution is provided by a very small percentage (23%) of distance education providers.

An assessment of the survey results is provided in Chapter 7. The concluding chapter will also discuss recommendations for increasing access to student support services as well as recommendations for further research.

Chapter 7. Assessment

The purpose of this chapter is to describe the status of institutional World Wide Web sites, distance education programs and consortial or collaborative relationships at Texas two-year public community or technical colleges. Secondly, the chapter discusses the methods of interaction or types of delivery systems identified as technology-based alternatives utilized by community and technical colleges for providing student support services. Third, the chapter assesses the types of student support services provided to distance learners. The chapter concludes with recommendations for increasing access to student support services and recommendations for future research.

Status of Institutional Web Sites, Distance Education and Consortial Relationships

The previous chapter presented data collected from content analysis of 54 Texas two-year public community college and technical institute Web sites. Web sites were analyzed September 20 – October 12, 1999. Table 7-1 summarizes the evidence on the status of institutional World Wide Web sites, distance education programs and consortial or collaborative relationships at community and technical colleges.

Table 7-1

Status of Institutional Web Sites, Distance Education and Consortial Relationships

Research Question	
Is each Texas public community and technical college Web site providing information about the teaching and learning process?	Yes, 78% of 54 college Web sites provide some information on the college's mission, goals or purpose. In addition, some colleges are using the Web's interactivity and multi-media capabilities to increase students' awareness of the college environment and philosophy.
Are colleges offering distance education and providing information on the distance teaching and learning process?	Yes, 44 colleges offer distance education. One-half of the colleges offering distance learning refer to an organizational unit responsible for overseeing the distance teaching and learning process. Colleges are providing some information on the distance teaching and learning process.
Are colleges actively participating in consortial or collaborative efforts?	No, the Web sites do not indicate that a majority of colleges are actively participating in consortial efforts.
What methods of interaction or systems of delivery are used to provide support services for distance learning?	Community and technical colleges are using e-mail and Web-based services such as on-line request forms and tutorials combined with the more traditional technologies such as toll-free telephone numbers to provide student support services.

Community and Technical College Web Sites. The evidence shows that college Web sites provide access to information on the teaching and learning process. For example, three-fourths of college Web sites provide information on the college's mission, goals or purpose. However, less than half of the colleges provide information on institutional accreditation. Furthermore, only a few colleges are providing links to accrediting agencies' Web sites or information about faculty credentials. Although many

colleges continue the formal appearance and language of printed publications, a few are using the Web's interactivity and multi-media capabilities to increase a student's feeling of connectivity to the college community and to provide opportunities to communicate with college administrators.

Distance Education. The evidence shows that nearly all of the colleges are offering distance education. In addition, many of the colleges have established a separate operational unit for distance education, indicating a commitment to on-going financial and technical support of distance learning. At colleges that have established formal distance education programs, the program's role and mission is available for review at a handful of Web sites. In addition, only a small number of colleges provide clearly stated program and/or course outcomes, objectives, policies or procedures. Similarly, there are few Web sites that provide information on accreditation, expected learning outcomes appropriate to the degree or certificate awarded or information about access to and interaction with faculty members.

Course descriptions provided on the Web sites suggest that most colleges are using technologically replicated classroom, multi-media and integrated models of technology-assisted instruction to link the institution, learning strategies, and the student. Terminology used to describe courses includes multi-media, interactive video, instructional television, telecourse, teleconference, videocourse or videoconference. Additional terminology includes online, Internet, Web-based, Web-supplemented or Web-enhanced courses **(see Appendix E for examples)**.

Consortial or Cooperative Efforts. Consortia or collaboratives are cooperative pooling and sharing arrangements among institutions, where several colleges and

universities join together through a statewide or regional network to offer distance learning programs. A college's Web site increases opportunities to participate in consortia or collaborative relationships. In addition, links to member colleges or the consortia's Web site indicates an institution's commitment to the success of the collaborative efforts.

A few community and technical colleges are participating in cooperative efforts. The evidence presented in Chapter 6 reveals that some colleges are participating in relationships with other community colleges, independent school districts or four-year universities. There is little evidence, however, that the members of the Virtual College of Texas are actively supporting and promoting the consortium's effort.

Chapter 3 explains that accrediting agency criteria require member institutions to form consortial relationships only with regionally accredited institutions offering degrees or certificates at the same level. In addition, educational courses and programs offered must be related to the teaching purpose of the institution. However, the evidence reveals that college Web sites offer little information about consortial policies on awarding degrees and credits or the responsibilities of host and remote sites. In addition, distance learners are provided with little information about the program's accreditation, a significant concern to students interested in continuing education or courses that enhance job-related skills.

Methods of Interaction or Systems of Delivery. The separation of instructor and student distinguishes distance education from all forms of conventional, face-to-face, direct teaching and learning. The preceding chapters explain that education is based on interpersonal communication and governed by the rules of personal interaction.

Therefore, in distance education, it is necessary to replace the interpersonal communication and interaction of conventional education by a variety of mechanical or technological means of communication.

Interactive technologies enable colleges to maximize social interaction for the distance learner and a diverse selection of technology-based alternatives effectively adapt the method of interaction to a student's particular learning preference, schedule or special needs. Evidence summarized in Chapter 6 shows that colleges are using technology-based alternatives to provide student support services. These technologies include toll-free telephone numbers, college publications in PDF, hyperlinked texts, on-line request forms and e-mail. Library catalogs are Web-based or are accessible by telnet connection. In addition to on-line public catalogs, libraries are providing access to electronic databases and Web-based information resources.

Assessing Student Support Services

Table 7-2 summarizes an assessment of each area of student services. Each area is assessed as very strong, strong, adequate, poor or very poor in providing services that should be available to the distance learner. Services are defined as essential, important or helpful elements in providing a quality distance education program and ensuring a successful educational experience.

Table 7-2

Assessment of Student Support Services

Information/Technical Support		
see pp. 133-137		
Essential services	Very poor	
Important services	Very poor	Very poor
Helpful services	Very poor	
Admissions		
see pp. 138-142		
Essential services	Poor	
Important services	Adequate	Poor
Helpful services	Very poor	
Registration		
see pp. 142-144		
Essential services	Very poor	
Important services	Very poor	Very Poor
Helpful services	Very poor	
Assessment		
see pp. 144-148		
Essential services	Very poor	
Important services	Very poor	Very Poor
Helpful services	Very poor	
Advising & Counseling		
see pp. 148-151		
Essential services	Very poor	
Important services	Very poor	Very Poor
Helpful services	Very poor	
Learning Resources		
see pp. 151-153		
Essential services	Poor	
Important services	Strong	Adequate
Helpful services	Very poor	
Other Support Services		
see pp. 153-155		
Essential services	Very poor	
Important services	Poor	Very poor
Helpful services	Very poor	

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An assessment of the evidence is based on data summarized in Chapter 6. One service, Learning Resources, is rated as adequate in providing access to services defined as essential, important or helpful in creating a successful distance learning experience. One service, Admissions is rated as poor in providing the services that should be available to distance learners. Five services, Information, Registration, Assessment, Advising and Counseling, and Other Services, are rated very poor in offering services to the distance learner.

This applied research project developed and presented a practical ideal type of student support services for the distance learner. The ratings derived from an assessment of the evidence indicate that student support services for distance education do not meet the criteria defined by the ideal type.

Several factors affect the assessment of student support services. The elements that comprise the practical ideal type are not rigidly fixed. It is possible to envision an ideal more than one way. Furthermore, a number of factors such as maturity of distance learning program, strengths of resources available for on-campus support services, and financial and technological resources available for non-traditional support services influence the extent and quality of services provided to distance learners.

Information/Technical Support. In a distance education environment, learners may be required to have specific skills to enroll in the program or specific courses. In addition to technology-related skills, the use of online learning resources requires information management skills and an awareness of ethical issues such as copyright and intellectual property ownership. Students may also require information about communicating with instructors and peers in a virtual environment.

At three-fourths of the Web sites, students participating in distance education do *not* have access to information about the availability of technical support staff, assumptions about technological competence, or technical equipment requirements and information management skills. All of these services are essential to a successful distance learning experience. However, a few colleges are using a variety of methods to provide access to technical support including e-mail links and toll-free telephone numbers. Finally, a small number of colleges are providing important or helpful services such as guides or tutorials, an opportunity to develop familiarity with the system, and information on ethics, confidentiality and privacy. Although some colleges are providing services, the majority of colleges are not providing essential, important, or helpful services to the distance learner. Thus, Information is rated very poor in providing services to the distance learner.

Admissions. Admissions is usually responsible for providing information about the institution's programs, admissions policies, financial aid and other support services. This component of student support services includes several services that are essential to a successful distance learning experience. The essential criteria include provision of course guide or catalog, criteria for admission, course or degree requirements, information on credit transfer, information relevant to tuition and fees, contact information, and clearly stated deadlines. Nearly three-fourths of the Web sites provide a course guide or catalog. Furthermore, a large number of colleges provide distance learners with Admissions contact information and access to course or degree requirements. Some Web sites provide an explanation of tuition and fees, however, there

is limited access to information on related concerns such as refund policies and payment deadlines.

Participation in an orientation program is an essential factor in distance learners' success and in their sense of connection with the institution, faculty and peers. The evidence shows that orientation is not available through technology-based alternatives of interaction such as videotaped presentations or videoconferencing at regional sites. Most colleges require distance learners to attend orientation on campus. Consequently access to orientation sessions is not available at times or locations that meet distance learners' schedules, requirements, or special needs.

The evidence reveals that many colleges do provide important elements in Admissions support services. Access to an academic calendar, student handbook, academic calendar, information on financial aid and an application for admissions are important, but not key factors, in distance learning. However, access to application for admission is offered at a small percentage of colleges. A review of the evidence indicates that access to essential services is poor, the provision of important services is adequate, and availability of helpful services is very poor. Consequently, services offered by Admissions are rated as poor in providing access to support services for the distance learner.

Registration. Access to essential services such as clearly stated guidelines are limited to a small number of colleges, and only a handful of colleges have support staff available during registration. Furthermore, registration times are limited and many colleges require students to register on-campus. However, there are a few colleges providing registration at regional centers, by telephone, or on-line. Overall, the services

provided by Registration, an essential aspect of a quality distance education program are disappointing. Consequently, Registration is rated as very poor in providing essential, important or helpful services to the distance learner.

Assessment. Assessment is also an essential component of a quality distance education program. Access to assessment services for distance learners is rated as very poor. There are almost no services available at times and locations (or through technology-based alternatives) that meet the distance learner's needs or special requirements. Consequently, distance learners at Texas community and technical colleges must either seek services on campus or begin their distance education experience without the benefit of services identified as essential, important or helpful to a successful distance learning experience.

Advising and Counseling. Advising and counseling serve as a vital link between the distance learner and the institution. This area of support services is a significant factor in reducing the student's sense of isolation and in increasing a feeling of connectivity with the institution. Unfortunately, this area is not meeting the needs of distance learners – the majority of colleges require students to seek services on campus. However, a few colleges are providing advising and counseling services at a distance and a small number of college Web sites have 'under construction' notes on internal pages, indicating that services may be available in the near future. Based on the evidence collected by the research, access to essential, important or helpful advising and counseling services is rated very poor.

Learning Resources. Although the evidence shows many essential and important services are provided at some colleges, one-third of college Web sites provide no access

to learning resource services. Access to essential learning resource services is rated as poor, while access to important services was rated as strong. Furthermore, access to helpful learning resource services was rated as very poor. Thus, based on an assessment of the evidence summarized in Chapter 6, this area of student support services is rated adequate in providing access to learning resource services.

Other Support Services. Similarly, only half of the colleges are providing some of the services defined as essential, important or helpful contributors to a successful distance learning experience. Consequently, other support services for the distance learner such as college Web pages in languages other than English, purchasing textbooks and supplies and student health insurance, are rated as very poor.

Benefits Derived from the Research

Several benefits of the research became evident during the course of this project. The first is the evidence that many colleges are carefully planning the design and content of their Web pages (**see Appendix E for examples**). A second benefit is that Web sites at some colleges show a high level of commitment to using available technology to minimize feelings of isolation and increase the distance learner's sense of connectivity to the institution. A third benefit was the occasional insight into a college's unique culture. A college's selection of photographs or graphics on the home page reflect those characteristics that make it unique from other sites on the Web. For example, Midland College's home page offers a spectacular West Texas sunrise and Paris Junior College's Web master reminds the reader that "animals were not used in testing the site".

Consequently, each college's Web site provides the potential student with a sense of the institution's culture and philosophy. In addition, the 'local touches' enhance a sense of connectivity with the college community. Finally, the researcher noticed the number of times a page has been accessed, indicated by the 'hit' counters found on many home pages. Counters at small college Web sites tallied surprisingly high numbers for a one-year total.[44] Thus, the numbers show that college Web pages *are* being accessed, a reminder to administrators that a commitment to financial and technical support is an essential component of planning.

Challenges Presented by the Research

One challenge presented by the research was locating one resource on the Internet that linked to all community and technical college Web sites. The Coordinating Board's list of colleges does not include all colleges and some of the links from the Board to college Web sites are inactive. A second challenge was encountered at one college's Web site that offered numerous internal pages, few navigational tools, and no site index or map. The researcher spent three and one-half hours searching the site for some indication of an application for admission. It is unlikely that students will invest that amount of time or effort to locate a document.

A third challenge was the inconsistency in terminology. Colleges use a variety of terms to refer to distance learning courses or programs. Examples include open campus, distance learning, extended learning and virtual learning center. Furthermore, some

[44] Note: A counter may count a graphic as a hit. For example, a Web page with text and two photographs may be counted as three hits when the page is accessed and downloaded to a browser. This possibility was taken into consideration during the review of total hits tallied by the Web site.

colleges do not provide a link from the home page directly to internal pages for distance learning. Students must first link to internal pages by choosing from a variety of terms such as academics, services for students, learning opportunities or admissions. From these internal pages, students are required to make additional choices and click on one to four additional links before arriving at an internal page with information on distance education. Consequently, distance education programs are not easily identified or readily accessible from many colleges' home pages.

A fourth challenge was the technology utilized by support services at each college. Navigating the Web can require a variety of 'plug-ins' to access video or audio clips. Some of these were not compatible with the researcher's browsers, or the researcher found that instructions and time spent downloading a required plug-in acted as a barrier to accessing selected documents. In addition, many sites revise internal pages and neglect to update links, leaving the student without a way to return to the home page or move to other internal pages. Finally, some distance education programs are accessible by password only, preventing the potential student from browsing the program's courses and services.

Research Weaknesses

The reliability and validity of the research are affected by the rapid change of information posted on the Internet. The evidence presented in Chapter 6 reveals that one-half of the Web sites analyzed were revised or updated within the last six months. Furthermore, some sites have 'new', 'under construction', or other icons, indicating that many college Web sites are in an active stage of development and implementation.

Future replications of the research, which increase the reliability of the evidence presented, are affected by the frequent revisions to content and design of college Web pages. Similarly, the validity of the research may be affected because it is difficult to accurately state that a document or a service is available on the site.

Recommendations for Improving Access to Student Support Services

If students are to successfully complete distance education courses, it is recommended that student support services move from traditional campus-based activities toward a cooperative, student-directed approach to assessment, advising and counseling. Furthermore, it is recommended that:

1. Each college integrates Web access to student support services. The content and formatting of internal pages indicate that at the majority of colleges each component of student services works independently from other components. It is recommended that Admissions, Assessment, Advising, and Counseling work cooperatively to create Web pages that provide *seamless* access to support services.

2. Community and technical colleges increase efforts to share Web-based services. Types of resources that can be shared include tutorials, guides for using equipment, and information on the distance learning experience.

3. Institutions, consortia and regulatory agencies join forces to develop and implement a Web site for commonly shared information. For example, a college's information on tuition and fees or transfer of credit is based on state regulatory requirements. Consequently, the researcher noted that a large number of colleges provide similar information on tuition and fees, admissions criteria, and so on. A significant benefit of a central location for this type of Web site is the availability of current information. Changes in regulatory agency requirements can be easily updated, enabling all colleges linking to the site to provide students access to current information on admissions, tuition and credit transfer requirements. Furthermore, a Web site with commonly shared information would enable institutions to shift resources to the development of Web pages that provide distance learners with information about campus-specific activities and services.

4. Distance education programs build on and expand the current selection of methods of interaction or systems of delivery. Colleges are using technology-based alternatives to increase interaction and a sense of connectivity to the institution. However, a diverse offering of technologies is needed to meet distance learners' schedules and preferences. It is recommended that colleges provide videotaped orientation sessions and provide information on the distance learning process or instructional materials such as registration guidelines on audio or videotape.

5. Colleges review and change assessment policies to meet the unique concerns of distance learners. At present, students entering a community college must complete the TASP exam, an assessment of basic skills. However, distance learners require basic technology-related skills such as downloading and saving files or sending e-mail attachments. An assessment of students' technology-related skills before enrollment is an important factor in ensuring a quality distance learning experience. Therefore, it is recommended that colleges develop a formal program of assessing technology-related skills before enrollment and follow-up on assessment results by providing distance learners with assistance in building or improving skills required for successful completion of a course or program.

6. Education providers, libraries and consortia increase cooperative provision of learning resources. Increased participation in Texshare and other cooperative ventures will allow colleges to provide access to a broad range of resources at minimal cost.

7. College administrators increase financial, technological, and staffing support of the institutional Web site. Administrative support and a clearly defined statement of purpose for the Web site are essential to providing support services for the distance learner. The diversity in formatting and content of internal pages indicates that at many colleges each department or service is acting independently or perhaps with only an administrative directive to 'put up a Web page'. It is recommended that colleges coordinate activities, provide departments with training in Web page development and increase technical support funding and staff.

8. Institutions evaluate current registration policies and procedures. Registration is an essential element in providing a successful distance learning experience. Consequently, information on the registration process should be available at all times and students should be able to register from a distance. Some colleges require distance learners to register on-campus. The Web provides an opportunity for colleges with limited resources to 'skip' a generation in technology (telephone-based registration) and implement on-line registration for courses.

9. Colleges evaluate current test proctoring policies and procedures. A majority of colleges require distance learners to complete exams on-campus. It is recommended that colleges explore the possibility of test proctoring agreements with other colleges, independent school districts or public/county library systems. Agreements and clearly stated testing guidelines that enable students to take exams at times and locations appropriate for their schedules or specific needs will facilitate students' successful completion of distance education courses.

10. Distance education programs increase students' participation in the evaluation process and post results of evaluative studies on the college's Web site. The evidence indicates that very few colleges include a formal evaluation in the distance teaching and learning process. Some Web sites display feedback buttons, offering students an opportunity to provide comments, however, none of the college Web sites post summaries of evaluation results. Consequently, institutions are not actively seeking information from students that would assist programs in reviewing and revising course offerings or policies on the distance teaching and learning process. Similarly, students are unable to access information about distance learners' satisfaction with courses or program.

Recommendations for Future Research

Distance education at Texas public community and technical colleges is in an early stage of development. Institutional Web sites, distance education, and student support services for the distance learner offer numerous opportunities for future research. Some possibilities include:

1. Time-series analysis of selected Web sites to document the improvement or decline of services available at Web sites or to identify trends in types of services provided.

2. Content analysis of college Web sites to assess whether the content and design of Web pages are accessible to visually or mobility impaired students.

3. Comparative studies. For example, analysis might focus on one aspect of college services such as a comparison of all colleges' internal Web pages for admissions.

Conclusion

This chapter describes the status of institutional World Wide Web sites, distance education programs and consortial or collaborative relationships at Texas two-year public community or technical colleges. Secondly, the chapter discusses the methods of interaction or types of delivery systems identified as technology-based alternatives utilized by community and technical colleges for providing student support services. Finally, the chapter assesses the types of student support services provided to distance learners.

The evidence reveals that a majority of college Web sites provide some types of information on the teaching and learning process. While many colleges continue the formal appearance and language of printed publications, a few are using the Web's interactivity and multi-media capabilities to increase a student's feeling of connectivity with the college community and to enhance access to the administration.

Analysis of college Web sites show there is almost equal distribution between colleges offering distance education courses and colleges that have established a distance education program to oversee the teaching and learning process. Course descriptions provided on the Web sites suggest that most colleges are using technologically replicated classroom, multi-media and integrated models of technology-assisted instruction to link the institution, learning strategies and the student. Terminology used to describe courses includes multi-media, interactive video, instructional television, telecourse, teleconference, videocourse or videoconference. Additional terminology includes online, Internet, Web-based, Web-supplemented or Web-enhanced courses.

College Web sites do not indicate that a majority of institutions are actively participating in consortial efforts. Some colleges are participating in relationships with other community colleges, independent school districts or four-year universities. There is little evidence, however, that the members of the Virtual College of Texas are actively supporting and promoting the consortium's effort. College Web sites offer little information about membership in VCT or provide links to the consortia's Web page or to other members' Web sites.

The separation of instructor and student distinguishes distance education from all forms of conventional, face-to-face, direct teaching and learning. Interactive technologies enable colleges to maximize social interaction for the distance learner and a diverse selection of technology-based alternatives effectively adapt the method of interaction to a student's particular learning preference, schedule or special needs. Community and technical colleges are using e-mail and Web-based services such as on-line request forms and tutorials combined with the more traditional technologies such as toll-free telephone numbers to provide student support services.

This applied research project developed and presented a practical ideal type of student support services for the distance learner. Each component of student support services is assessed as very strong, strong, adequate, poor or very poor in providing the services that should be available to the distance learner. Assessment is based on the number of colleges that offer criteria defined as essential, important or helpful in creating a successful distance learning experience. Information, Registration, Assessment, Advising and Counseling and Other Services are rated as very poor in providing services. Admissions is rated as poor and Learning Resources is rated as adequate in the provision

of support services for distance learning. Consequently, student support services for distance education do not meet the criteria defined by the ideal type.

The chapter concludes with recommendations for increasing access to student support services. If students are to successfully complete distance education courses, it is recommended that student support services move from traditional campus-based activities toward a cooperative, student-directed approach to assessment, advising and counseling. It is recommended that:

1. Each college integrates Web access to student support services.
2. Community and technical colleges increase efforts to share Web-based services.
3. Institutions, consortia and regulatory agencies join forces to develop and implement a Web site for commonly shared information.
4. Distance education programs build on and expand the current selection of methods of interaction or systems of delivery.
5. Colleges review, and if appropriate, change assessment policies to meet the unique concerns of distance learners.
6. Education providers, libraries and consortia increase cooperative provision of learning resources.
7. College administrators increase financial, technological, and staffing support of the institutional Web site.
8. Institutions evaluate current registration policies and procedures.
9. Colleges evaluate current test proctoring policies and procedures.
10. Distance education programs increase students' participation in the evaluation process.

The Internet and the World Wide Web serve as an alternative method of providing information and services for distance education. A carefully planned Web site

can increase the distance learner's interaction with support services and sense of connectivity to the institution. The focus of this project has been student support services for distance education and it was discovered that the majority of community and technical colleges are not providing the types of support services that should be available to the distance learner. However, many colleges demonstrate an awareness of the distance learner's needs and requirements. In addition, college Web sites display a variety of icons and notations indicating that Web pages are in a state of development and revision.

Consequently, the results of this study may serve as a benchmark for future research. Recommendations for future study include time-series analysis to document the improvement or decline of services or to identify trends in types of services provided.

Additional recommendations for future study include content analysis of college Web sites to assess accessibility of Web pages or comparative studies of college Web pages focusing on one aspect of college services such as admissions or registration.

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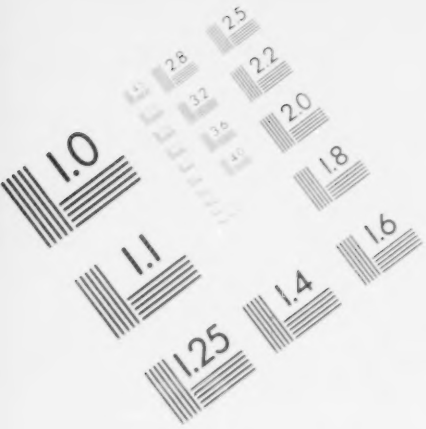

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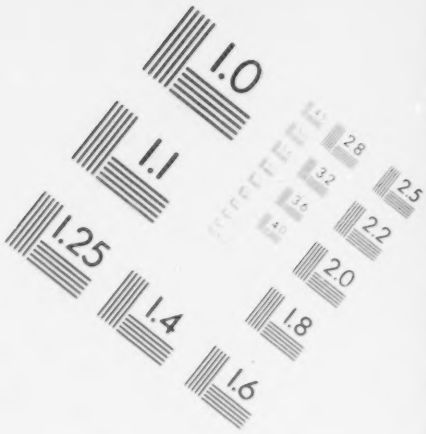

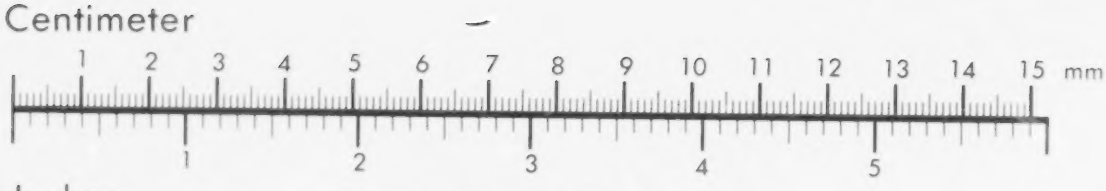

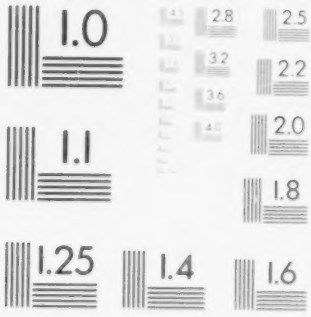

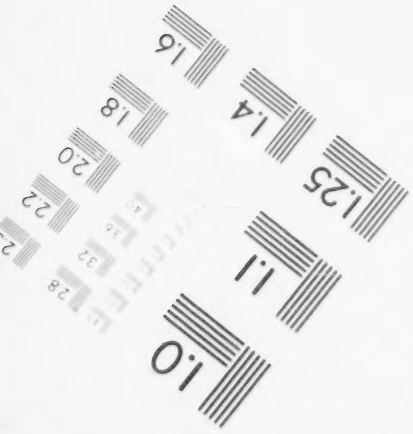

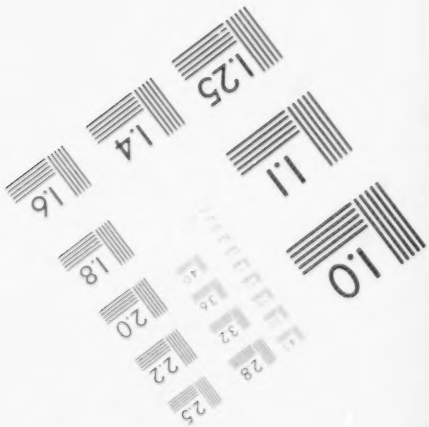

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APPENDIX A. Texas Public Community and Technical Colleges

			Programs Offered		
College	URL	Total Headcount	Technical	AAS	Certificate
Alamo Community College District[1]	http://www.accd.edu/				
Northwest Vista College[2]	http://www.accd.edu/nvc/index~1.htm	1,479	6	3	8
Palo Alto College	http://www.accd.edu/PAC/PACMAIN/PACHP.HTM	7,307	12	14	26
San Antonio College	http://www.accd.edu/sac/sacmain/sac.htm	21,287	27	41	45
St. Philip's College	http://www.accd.edu/spc/spcmain/spc.htm	8,259	32	40	50
Alvin Community College	http://www.alvin.cc.tx.us/	3,719	24	24	45
Amarillo College	http://www.actx.edu/	7,265	42	47	95
Angelina College	http://www.angelina.cc.tx.us/	3,992	22	19	47
Austin Community College	http://www.austin.cc.tx.us/	25,796	50	64	82
Blinn College	http://www.blinncol.edu/	10,185	19	19	24
Brazosport College	http://www.brazosport.cc.tx.us/	3,560	24	29	48
Central Texas College	http://www.ctcd.cc.tx.us/	6,040	36	42	106
Cisco Junior College	http://www.cisco.cc.tx.us/	2,565	21	18	36
Clarendon College[3]	http://clarendoncollege.net	891	4	3	5
Coastal Bend College	http://www.cbc.cc.tx.us/	2,755	24	17	51
College of the Mainland	http://www.mainland.cc.tx.us/	3,596	23	22	31
Collin County Community College District	http://www.cccd.edu/	11,047	35	44	79

[1] Alamo Community College District has a central Web site with information relevant to all campuses. In addition, each campus has a Web site with information about services specific to that campus. The central Web site URL is http://www.accd.edu/

[2] Northwest Vista is not included in the content analysis. The most recent addition to Alamo Community College District is a candidate for accreditation from Southern Association of Colleges and Schools.

[3] Clarendon College Web site is not available at present. There is a home page accessible on the Web, however, it does not link to internal pages. According to Nina Hunt, Secretary for Dean of Instruction, the College is planning an extensive revision and removed existing pages. (telephone interview October 12, 1999).

Dallas Community College District[4]	http://www.dcccd.edu/				
Brookhaven College	http://www.dcccd.edu/bhc/index.htm	7,184	0	0	0
Cedar Valley College	http://www.dcccd.edu/cvc/cvc.htm	2,604	0	0	0
Eastfield College	http://www.efc.dcccd.edu/	7,810	18	23	46
El Centro	http://www.ecc.dcccd.edu/	4,683	25	23	39
Mountain View College	http://www.mvc.dcccd.edu/	5,242	15	21	26
North Lake College	http://www.dcccd.edu/nlc/nlchp.htm	5,603	0	0	0
Richland College	http://www.rlc.dcccd.edu/default.htm	12,009	18	25	40
Del Mar College	http://www.delmar.edu/	10,399	42	50	80
El Paso Community College District	http://www.epcc.edu/	19,371	49	49	83
Frank Phillips College	http://www.fpc.cc.tx.us/	1,101	14	12	26
Galveston College	http://www.gc.edu/	2,190	15	14	29
Grayson County College	http://www.grayson.edu/	3,131	26	24	58
Hill College	http://hillcollege.hill-college.cc.tx.us/	2,681	14	18	46
Houston Community College System	http://www.hccs.cc.tx.us/	31,926	64	65	178
Howard County Junior College District Howard College[5]	http://www.hc.cc.tx.us/	1,960	24	15	46
Southwest Collegiate Institute for the Deaf		96	7	4	7
Kilgore College	http://www.kilgore.cc.tx.us/	4,106	41	32	72
Laredo Community College	http://www.laredo.cc.tx.us/	7,421	28	24	57
Lee College	http://www.lee.edu/	6,002	30	42	76
McLennan Community College	http://mccweb.mcc.cc.tx.us/index.html	5,467	28	37	65
Midland College	http://www.midland.cc.tx.us/	4,228	28	24	65
Navarro College	http://www.nav.cc.tx.us/	3,362	18	20	43
North Central Texas College	http://www.nctc.cc.tx.us/	4,231	19	16	35

[4] Dallas Community College has a central Web site with information relevant to all campuses. The District Web site links to internal Web pages with information relevant to individual campuses. Content analysis was limited to the District Web site. URL is <http://www.dcccd.edu/>

[5] Information for The Southwest Collegiate Institute for the Deaf is available on the District's Web site. The Institute does not have a separate Web site.

North Harris Montgomery Community College District[6]	http://www.nhmccd.edu/				
Kingwood College	http://kcweb.nhmccd.cc.tx.us/	3,870	8	8	26
Montgomery College	http://wwwmc.nhmccd.edu/	4,463	13	12	27
North Harris College	http://wwwnhc.nhmccd.cc.tx.us/	9,628	25	24	71
Tomball College	http://wwwtc.nhmccd.edu/	4,224	12	12	29
Northeast Texas Community College	http://www.ntcc.cc.tx.us/homepage/homepage.html	2,027	12	14	37
Odessa College	http://coyote.odessa.edu/	5,041	30	36	101
Panola College	http://www.panola.cc.tx.us/	1,717	9	6	13
Paris Junior College	http://www.paris.cc.tx.us/	2,907	17	18	35
Ranger College	http://www.ranger.cc.tx.us/	832	6	4	18
San Jacinto College[7]	http://www.sjcd.cc.tx.us/				
Central Campus		9,316	33	46	76
North Campus		3,930	23	27	58
South Campus		5,017	18	19	37
South Plains College	http://www.spc.cc.tx.us/website/home.php3	6,217	35	40	50
South Texas Community College	http://www.stcc.cc.tx.us/	6,857	26	20	30
Southwest Texas Junior College	http://www.swtjc.cc.tx.us/	3,412	11	8	16
Tarrant County Junior College[8]	http://www.tcjc.cc.tx.us/				
Northeast Campus	http://www.tcjc.cc.tx.us/campus_ne/	9,398	25	21	35
Northwest Campus	http://www.tcjc.cc.tx.us/campus_nw/nwhome.htm	4,007	15	18	20
South Campus	http://somedia.tccd.net/south/index1.html	7,395	21	18	26
Southeast Campus	http://www.tcjc.cc.tx.us/campus_se/	5,892	11	12	24
Temple College	http://204.56.139.2/	2,894	18	18	37
Texarkana College	http://www.tc.cc.tx.us/	3,732	25	11	43

[6] North Harris-Montgomery Community College District's Web site < http://www.nhmccd.edu/ > indicates that only two campuses – Kingwood and Tomball – offer distance learning courses. Content analysis was limited to the Kingwood and Tomball campuses.

[7] San Jacinto College has one Web site that provides information for Central, North, and South campuses.

[8] Tarrant County has a district Web site with information relevant to all campuses, the URL is <http://www.tcjc.cc.tx.us/>. In addition, each campus has a Web site with information about services specific to that campus. Content analysis is limited to district Web site only.

Texas Southmost College	http://www.utb.edu/	6,828	25	19	34
Texas State Technical College [9]					
Harlingen	http://harl.tstc.edu/	3,189	25	25	55
Sweetwater	http://www.sweetwater.tstc.edu/	1,000	18	21	19
Waco	http://www.tstc.edu/waco.html	4,279	33	47	89
Trinity Valley Community College	http://www.tvcc.cc.tx.us/	4,379	23	15	43
Tyler Junior College	http://www.tyler.cc.tx.us/	8,156	33	35	59
Vernon Regional Junior College	http://www.vrjc.cc.tx.us/	1,750	22	15	43
Victoria College	http://www.vc.cc.tx.us/	3,804	19	22	45
Western Texas College	http://www.wtc.cc.tx.us/	1,112	10	9	14
Wharton County Junior College	http://198.64.57.10/wharton/wcjchome.htm	4,053	21	20	18

Source: Texas Higher Education Coordinating Board. Office of Institutional Effectiveness – Research Office / December 1, 1998. Available through the Internet. http://www.thecb.state.tx.us/ Accessed July 7, 1999.

Total number of Colleges = 66 ***Total number of Web sites analyzed = 54***

[9] An additional TSTC campus, Marshall, was granted independent status by the 76th Legislature. Status was effective Sept. 1, 1999. The college's Web site indicates the Marshall campus is a candidate for SACs accreditation. The Marshall Web site is not included in the content analysis or as one of the total colleges, n=66.

College Browser
Date Searched

CODING SHEET			
		Yes = 1 No = 0	Method of Interaction System of Delivery
Institutional Web Presence			
1	Institutional Web site		
2	Stated purpose of Web site		
3	Introduction to college, mission, philosophy		
4	Accreditation		
5	Links to regulatory / accrediting agencies		
6	Program-specific accreditation (i.e., health science, engineering)		
7	Links to accrediting agencies		
8	Faculty credentials		
Postsecondary Distance Education			
9	Reference to DL course offerings – no DL program / unit		
10	Identified as separate program / unit		
11	DL program mission, philosophy		
12	Program / course outcomes – objectives, policies, procedures		
13	DL regulatory / accrediting		
14	Links to regulatory / accrediting agencies		
15	Expected learning outcomes		
16	Nature of faculty/student interaction		
Postsecondary consortial and cooperative efforts			
17	Consortia / cooperative efforts		
18	Links to consortia homepage		
19	Links to members homepage		
20	Explanation of consortial agreements – co-enrollment, host/recipient, etc.		

Student support services for distance learners			
Information			
21	Technical support staff		
22	Assumptions about technological competence and skills		
23	Information management skills – going online, retrieving and evaluating information		
24	Ethical how-to's; confidentiality; privacy		
25	Log-on information, communications parameters, technical equipment requirements		
26	Guides, tutorials, instructions for using technology		
27	Opportunity to practice sending and receiving files, becoming familiar with system		
Admissions			
28	Academic calendar		
29	Course guide / catalog		
30	Student Handbook		
31	Criteria for Admissions		
32	Additional admissions requirements for DL		
33	Course / degree requirements		
34	Application – Institution		
35	Application - Common		
36	Transfer of Credit – Explanation – Students Entering		
37	Transfer of Credit – Explanation – Specific to DL		
38	Transfer of Credit - Explanation - Students Leaving		
39	Financial Aid		
40	Explanation of Tuition and Fees		
41	Comparison of on-site and DL costs		
42	Admissions Contact Information		
43	Refund Policies		
44	Deadlines clearly stated		
45	Orientation		

Registration			
46	24-hour registration		
47	Registration - Instructions		
48	Registration - Deadlines		
49	Year-round registration for DL		
50	Payment Policies		
51	Support staff available during registration period		
52	Payment by credit card		
Assessment, Advising, Counseling			
53	Assessment. Placement		
54	Assessment. Basic skills		
55	Assessment. Learning styles		
56	Assessment. Real-world experience		
57	Assessment. Communication skills		
58	Assessment. Proficiency exams (CleP)		
59	Assessment. Performance based (portfolio)		
60	Assessment. Clearly defined guidelines on testing policy		
61	Assessment. Information on test delivery / proctoring		
62	Assessment. Grade posting		
63	Assessment. Student progress		
64	Assessment. Student's comments on program		
65	Advising. Academic		
66	Advising. Degree Planning		
67	Advising. Comparison DL & traditional ed		
68	Advising. Success rate of previous distance learners		
69	Counseling. Career		
70	Counseling. Mediation with Instructor		
71	Counseling. Study Skills		
72	Counseling. Time Management		
73	Counseling. Referral services		
74	Counseling. Mentoring		
75	Counseling. Tutoring		
76	Counseling. Learning difficulties		

Learning Resources			
77	Library catalog		
78	On-line full-text databases		
79	Texshare participant		
80	Electronic document delivery		
81	Supplementary course materials		
82	Required texts		
Other			
83	Hours services available		
84	Languages other than English		
85	Purchasing textbooks and supplies		
86	Student health insurance		
87	Laboratory facilities		
88	Regional centers		
Method of Interaction or System of Delivery			
	Web page revision <3 mo <6 mo <1 yr >1 yr		
Asynchronous			
	Audiotape		
	Computer Assisted		
	E-mail		
	Mail		
	Video Presentations One-way		
	Television broadcast		
	Videotape / disk		
	Telnet		
	Fax		
	Telephone / voice menu information bank		
	Web-based		
	Print-based		
	Downloading of software / course materials		
	Bulletin board / Listserv / Newsgroup		
	FTP		
Synchronous			
	Toll-free telephone number		
	Regional Center		
	Interactive two-way video/ two-way audio		
	Telephone conference		
	Videoconference		
	WWW – World Wide Web or Internet		
	Chat or MOO		

The Principles of Good Practice for Electronically Offered Academic Degree and Certificate Programs

The Principles of Good Practice is a publication of a three-year project – Balancing Quality and Access: Reducing State Policy Barriers to Electronically Delivered Higher Education Programs -- supported by the U. S. Department of Education's Fund for the Improvement of Postsecondary Education and conducted by the Western Cooperative for Educational Telecommunications (Western Cooperative, 1997, p. 1).

The principles (1) set standards for programs and courses, supplementing current rules; (2) provide a commonly accepted set of standards for helping to ensure the uniform application of quality and support principles in all states; and (3) serve as consumer protection measures (Coordinating Board 1998 *Status Report*).

The Project followed two earlier initiatives concerning distance education. The first, The Principles of Good Practices for Distance Higher Education was cosponsored by the American Council on Education, The Alliances of Alternative Degree programs for Adults, the International University Consortium, and the Educational Telecommunications Division of the National University Continuing Association. The second project was sponsored The Center for Adult Learning and Educational Credentials of the American Council on Education (ACE) and The Alliance: An Association for Alternative Degree Programs for Adults). The ACE-Alliance project resulted in the 1990 publication, *Principles of Good Practice for Alternative and Eternal Degree Programs for Adults (Levine, p. 21)*.

Western Cooperative (1997, p. 6) explains that several assumptions form the basis for the *Principles*.

- The electronically offered program is provided by or through an institution that is accredited by a nationally recognized accrediting body.
- The institution's programs holding specialized accreditation meet the same requirements when offered electronically.
- The "institution" may be a traditional higher education institution, a consortium of such institutions, or another type of organization or entity.
- These Principles address programs rather than individual courses.
- It is the institution's responsibility to review educational programs it provides via technology in terms of its own internally applied definitions of these Principles.

The Principles of Good Practice

Curriculum and Instruction

- Each program of study results in learning outcomes appropriate to the rigor and breadth of the degree or certificate awarded
- An electronically offered degree or certificate program is coherent and complete
- The program provides for appropriate real-time or delayed interaction between faculty and students and among students.
- Qualified faculty provide appropriate oversight of the program electronically offered.

Institutional Context and Commitment to Role and Mission

Role and Mission

- The program is consistent with the institution's role and mission
- Review and approval processes ensure the appropriateness of the technology being used to meet the program's objectives.

Faculty Support

- The program provides faculty support services specifically related to teaching via an electronic system
- The program provides training for faculty who teach via the use of technology

Resources for Learning

- The program ensures that appropriate learning resources are available to students.

Students and Student Services

- The program provides students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technological competence and skills, technical equipment requirements, availability of academic support services and financial aid resources, and costs and payment policies.
- Enrolled students have reasonable and adequate access to the range of student services appropriate to support their learning.
- Accepted students have the background, knowledge, and technical skills needed to undertake the program.
- Advertising, recruiting, and admissions materials clearly and accurately represent the program and the services available.

Commitment to Support

- Policies for faculty evaluation include appropriate consideration of teaching and scholarly activities related to electronically offered programs
- The institution demonstrates a commitment to on-going support, both financial and technical, and to continuation of the program for a period sufficient to enable students to complete a degree/certificate

Evaluation and Assessment

- The institution evaluates the program's educational effectiveness, including assessments of student learning outcomes, student retention, and student and faculty satisfaction. Students have access to such program evaluation data.
- The institution provides for assessment and documentation of student achievement in each course and at completion of the program.

APPENDIX D.
DISTANCE EDUCATION AT TEXAS COMMUNITY & TECHNICAL COLLEGES

College Web sites with no reference to distance learning

Cisco Junior College
Kilgore College
North Central Texas College
Paris Junior College
Ranger College
San Jacinto College
South Plains College
Texarkana College
Texas State Technical College – Harlingen
Texas State Technical College - Sweetwater

College Web sites with reference to distance learning courses

Alamo Community College District-St. Philip's
Angelina College
Coastal Bend College
El Paso Community College District
Galveston College
Grayson County College
Hill College
Howard County Junior College District
Lee College
McLennan Community College
Midland College
Navarro College
Odessa College
Panola College
South Texas Community College
Southwest Texas Junior College
Temple College
Texas Southmost College
Trinity Valley Community College
Tyler Junior College
Victoria College
Western Texas College
Wharton County Junior College

Colleges that refer to separate operating unit to oversee distance teaching and learning

Alamo Community College District-Palo Alto
Alamo Community College District-San Antonio
Alvin Community College
Amarillo College
Austin Community College
Blinn College
Brazosport College
Central Texas College
College of the Mainland
Collin County Community College District
Dallas Community College District
Del Mar College
Frank Phillips College
Houston Community College System
Laredo Community College
North Harris Montgomery Community College District Kingwood College
North Harris Montgomery Community College District Tomball College
Northeast Texas Community College
Tarrant County Junior College
Texas State Technical College - Waco
Vernon Regional Junior College

Appendix E.
Student Support Services in a Virtual Environment

This appendix provides examples of community and technical college Web pages collected from content analysis of 54 Texas public community college and technical institute Web sites. Web sites were analyzed September 20 – October 12, 1999. Pages were selected for content and purpose without regard to quality of Web page design. Consequently, the examples should be viewed only as representative of the types of services or information available to the distance learner, rather than as examples of the "best" choice among similar Web pages. The appendix is organized according to type of information of service provided. Examples are included for:

Postsecondary Distance Education	• Requirements for Distance Learning • Explanation of Types of Distance Learning Courses • Distance Education Course Evaluation
Student Support Services – Information	• Distance Education – HELP – links to FAQs, Internet terminology, e-mail providers, technical support • Internet Use Policy
Student Support Services – Admissions	• On-Line Application • Hyperlinked index to academic calendar, college catalog, etc. • Hyperlinked index to internal pages on admissions, credit transfer, etc.
Student Support Services – Assessment, Advising & Counseling	• Testing Guidelines for Online Students • Academic advising by way of request form/e-mail • Online career center to assist students with identifying and developing career plans
Student Support Services – Learning Resources	• Links to reference materials available on the Web • Configuring browsers to serve as proxy servers • Examples of learning resource services available for distance learners
Other Student Support Services	• Web-based information on acquiring textbooks

Requirements for Distance Learning

Admission and Registration
Provides forms and connects you with the Distance Learning Counselor.

Computer Skills and Technical Requirements
Lists the navigation, file management, and computer skills you need to succeed in distance learning and details the type of computer and software you need to enroll in our online courses

Local Testing Site
If you are not using the CTC Central Campus Testing Center, you must arrange for a local testing site and let us know the location, fax and phone numbers, and the contact person.

Books and Materials
Lists the texts and materials you need for each distance learning course and supplies the ISBNs you'll need to order them. Also, supplies ordering instructions.

Online Enrollment Form
This form must be submitted because it lets us know who you are, what your email address is, and where you'll be testing. Without this information, your instructor cannot contact you and supply the course password.

Course Passwords
Email your instructor to request the user name and password you'll need to access your courseware

CTC Homepage	DL Homepage	DL Counselor	Online Help

see faculty incentives

Coastal Bend College

INTERNET COURSES

SPRING 2000

What are they?

Internet courses are regular college classes that are taught over the Internet. Students will access course materials, turn in assignments, contribute to class chat rooms, read and post items to class bulletin boards--all from PCs with Internet connections. The Internet connections may be made from home, school, work, or other appropriate locations.

Which courses are offered on-line?

Students may enroll in:

Taught byCoastal Bend College instructors

COSC 1401-Intro to Computers and Information Science
DATP 2457-Special Topics-EXCEL
ENGL 1301-Compostion and Grammar
ENGL 1302-Compositon and Rhetoric
ENGL 1311-Technical Writing
MATH 0222- Remedial Mathematics
MATH 1314-College Algebra
PHYS 1411 Fundamentals of Astronomy
PSYC 0333- Study Skills
PSYC 2301- General Psychology
SOCI 1301- Principles of Sociology
WORD 1101 Introduction to Word Processing

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WORD 2357-Medical Transcription
WORD 2374 - Advanced Professional Applications
Taught by San Antonio College instructors:
BGMT 1303 - Principles of Management
ENGL 2311 - Technical Writing
HIST 1301 - U. S. History Before 1865
HUMA 1301 - Introduction to Humanities
SPAN 1411 - Elementary Spanish See entire CBC course offerings

Taught by Texas instructors:

If we are not offering a course you need, check out The Virtual College of Texas catalog Coastal Bend College is a part of a cooperative effort by Texas communitiy colleges to make distance learning courses available to students throughout Texas. If you find an Internet course you are interested in, contact Alma Adamez about details for enrolling.

Who should take an Internet class?
These classes are designed for students who are:

- **highly motivated**
- **self-starters**
- **non-procrastinators**
- **computer and Internet literate**

Don't take an Internet class if you:

- **are taking it because you think it will be easier than a regular college class**
- **have to be reminded of deadlines approaching**
- **put things off to the last minute**
- **hate computers**

In an Internet class, you will have to:

- **initiate contact with the instructor and class through e-mai**
- **keep up will all assignment**
- **contribute to chat rooms and bulletin board**
- **submit all assignments on time**
- **take supervised tests usually at least twice a semester by making arrangements for testing on**

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taking SAC Internet classes may test in San Antonio)

How much time will an Internet class take?

The time involved should be approximately the same amount of time as a regular college class. Times will vary from class to class and from student to student. A general rule of thumb is this: a student in a three semester hour course spends three hours a week in class and should expect to spend twice that much (six hours a week) outside of class studying and doing assignments. Students who allot this much time (nine to ten hours a week) to a class are usually very successful. The time must be time on task; time devoted exclusively to the course you are taking. Time spent surfing the Internet in general does not count!

How do I sign up for an Internet course?

You can sign up for Fall 1999 classes during regular registration through an Internet counselor. Enrollment is limited, and students must qualify prior to admittance, so the sooner you sign up, the better your chance to enroll. If you are allowed into a class, you will need to attend an orientation on one of these dates:

For courses taught by CBC instructors:

January 14, 2000	8:30 a.m. -10:30 a.m.	Alice, Rm. 130
January 14, 2000	1:30 p.m. - 3:30 p.m.	Kingsville, Rm. 115
January 14, 2000	1:30 p.m. - 3:30 p.m.	Beeville, V-138 (LAC)
January 17, 2000	5:30 p.m. - 7:30 p.m.	Kingsville, Rm. 115
January 17, 2000	5:30 p.m. - 7:30 p.m.	Beeville, V-138 (LAC)
January 17, 2000	5:30 p.m. - 7:30 p.m.	Alice, Rm. 130

******For Psychology Students Only - you must attend one of the sessions below along with a regular orientation session listed above:

January 14, 2000	**10:30 a.m. - 12:30p.m.**	**Alice, Rm. 130**
January 14, 2000	3:30 p.m. - 5:30 p.m.	Beeville and Kingsville - LAC
January 17, 2000	7:30 p.m. - 9:30 p.m.	Beeville-LAC, Alice - Rm 130, and Kingsville - LAC

For courses taught by SAC instructors:

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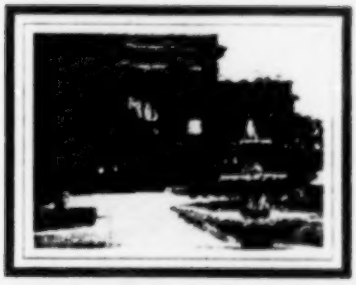
January 7, 2000 2:00 p.m. - 4:00 p.m. Beeville & Kingsville - LAC

SAC instructed courses start one week before CBC courses, thus, orientation is offered prior to CBC's registration period.

Think you might want to take an Internet course?

Well then, contact an Internet counselor:
Alma Adamez or Santos Martinez in the Beeville LAC
Randy Lindeman in the Alice LAC
Rito Silva in the Kingsville Administrative Office
OR
send e-mail to ask for information
OR
complete an application to take Internet courses.



Distance Learning

Listserv Instructor's Resources Home

webct

cbt systems

CBT Login

WebCT User's Guide

Disclosure Statement *for students interested in courses taught via the Internet*

Choose a Subject Area

Select Your Course Subject

- Business
- Computer & Electronic Servicing
- Computer Science
- Economics
- Electronic Engineering Technology
- English
- Geology
- Government
- History

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What Is A Telecourse

Telecourse Handbook

A telecourse is a convénient, personal way to earn college credit at home. Telecourses offer an alternative to the traditional classroom. Students come to campus for orientation, conferences with the instructor and exams. Students may view telecourse lessons at home through CableOne Channel 26 in Sherman/Denison or in the GCC Library at a variety of times to fit their own personal "prime time".

There are usually thirty (30) 30-minute modules (telelessons) which make up a telecourse. Telecourses require maturity, self-dicipline and self-motivation. Each course requires commitment of time equal to that required by an on-campus course. A realistic evaluation of other obligations should be made before a student decides how many credit hours to undertake. A student may be full-time or part-time; either way, one will have the same rights and privileges as a regular on-campus student.

Upon successful completion of a course, a student will receive full college credit. the courses and the credit hours are equivalent to those offered on campus and apply toward GCC associate degree requirements. Most telecourses can be approved for VA benefitsw and many fit into certificate program requirements; the majority fulfill requirements for BBA, BA and BS degrees.

What Is A Multimedia Course

A Multimedia Course is a convenient, personal way to earn college credit at home. Multimedia courses offer an alternative to the traditional classroom. Multimedia courses are conducted totally by arrangement between the instructor and student. Multimedia courses are delivered via conventional mail, fax or email.

A student may be full-time or part-time; either way, one will have the same rights and privileges as a regular on-campus student.

Upon successful completion of a course, a student will receive full college credit. The courses and the credit hours are equivalent to those offered on campus and apply toward GCC associate degree requirements. Most Multimedia courses can be approved for VA benefits and many fit into certificate program requirements; the majority fulfill requirements for BBA, BA and BS degrees.

What Is An Internet Course

Students who take courses via the Internet will have the opportunity to complete the course from the convenience of their own home computer. Before beginning an Internet based course, you

should realize that there are no class meetings. All course work is submitted at your computer. You should also have the following resources and skills:

- You must have a computer that is capable of connecting to the Internet and running Internet client programs such as a web browser and an email client.
- Your computer will also need other applications as specified by your instructor. Most commonly this only includes a word processor.
- You must have or obtain an Internet account with an Internet Service Provider prior to beginning your course.
- You must establish an email account prior to beginning your course.
- If you do not have a home computer with Internet access, you may use the GCC computer labs.
- If you do not have an email account, you may apply for one at the GCC Library. You must do this well before your class begins. There can be a tw -week wait for email accounts at the beginning of semesters.
- You must have experience using a web browser (i.e. Netscape or Internet Explorer).
- You must have experience checking email and attaching digital files to email messages.
- You must have experience saving files in the format required by your instructor. Most text files are saved in Rich Text Format unless otherwise stated by your instructor.

For additional information on these and additional distance learning class offerings, contact Gary Paikowski, Dean, Information Technology.

For technical problems or suggestions, email us at distance@grayson.edu.

Kingwood College

Distance Education Course Evaluation

Course Number _____
Course Title _____
Instructor _____
Semester _____
Your Name _____
(optional)

Course Format

- ITV
- Video
- Television
- Independent Studies
- Internet

Please answer as honestly as possible. Put N/A (Not Applicable) if the question does not apply to your course. Submit at the bottom of this evaluation form. Thank you.

1. Which of the following did you use for this class? (check all that apply)

- Videotapes
- Printed materials (textbooks, handouts)
- Email
- World Wide Web
- Internet chat rooms, listservs, bulletin boards

ORIENTATION

2. The orientation was available

- College
- Internet
- Email
- Handout
- Video
- ITV

3. The orientation made the class successful.

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- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

4. I participated in an orientation session for this class.

- Yes
- No
- None Given

COURSE CONTENT

5. Instructor was knowledgeable about the subject.

- **Strongly Agree**
- **Agree**
- **Neutral**
- **Disagree**
- **Strongly Disagree**
- **Not Applicable N/A**

6. The instructor cared about my progress.

- **Strongly Agree**
- **Agree**
- **Neutral**
- **Disagree**
- **Strongly Disagree**
- **Not Applicable N/A**

7. The instructor's presentations are enthusiastic and interesting.

- **Strongly Agree**
- **Agree**
- **Neutral**
- **Disagree**
- **Strongly Disagree**
- **Not Applicable N/A**

8. The instructor was approachable and available.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

9. The instructor encouraged students to think and question independently.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

10. The instructor found ways to involve members of the class.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

11. The tests fairly reflected the content of the course.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

COURSE MATERIALS

12. The textbook(s) used in this class was well organized and easy to follow.

- Strongly Agree
- Agree

- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

13. The course materials (syllabus, handouts, web pages, videotapes, etc.) were well organized and easy to follow.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

14. The textbook(s) and/or course materials were appropriate for the class (accurate, current, relevant to course content).

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

15. It was easy to obtain the required materials.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

16. I took advantage of supplemental materials (videos, CD-ROM, reading lists, web sites)

- Strongly Agree
- Agree
- Neutral
- Disagree

- Strongly Disagree
- Not Applicable N/A

17. Course materials were made available in a timely manner.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

COURSE PROCEDURES AND FEEDBACK

18. On the average, I received feedback from my instructor about assignments/exams in:

- Never
- One Month
- Two Weeks
- One Week
- One Day
- Not Applicable N/A

19. On the average, I communicated with my instructor or an assistant: (this includes telephone messages, email, chat room conversations, etc.)

- Never
- Once a Month
- Every Two Weeks
- Once a Week
- 2 or 3 Times a Week
- Daily

20. Excluding the orientation session, I was required to be on campus for this class (e.g. tests, quizzes, labs, etc.)

- Never
- 6"More than 6
- Not Applicable

21. Considering all of my classes this semester, I was on campus

- Never
- Once a Month
- Every Two Weeks
- Once a Week
- Daily

22. This mode of delivery (television, independent study, video, internet) made it possible for me to take this class.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

FACILITIES AND EQUIPMENT

23. I took exams in the following test centers: (check all that apply)

- Kingwood College
- Tomball College
- North Harris College
- Montgomery College

24. Tests/quizzes were available when expected.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

25. The Testing Center's hours met my needs.

- Strongly Agree
- Agree
- Neutral
- Disagree

- Strongly Disagree
- Not Applicable N/A

26. I used the following ASC lab(s). (check all that apply)

- Kingwood College
- Tomball College
- North Harris College
- Montgomery College

27. The ASC lab(s) hours met my needs.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

28. I used the following library(libraries). (check all that apply)

- Kingwood College
- Tomball College
- North Harris College
- Montgomery College

29. The library's hours met my needs.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

30. I am able to send or receive email messages to/from my instructor

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

31. I was able to access the Internet Web pages when needed.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

32. I was able to access the Internet chat room, listserv or bulletin board when needed.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

COLLEGE OPERATIONS/PROCEDURES

33. Registration for this class went smoothly.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

34. Required textbooks and materials were readily available from the bookstore.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

35. I would take another class through Distance Learning.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

36. Over-all my experience was satisfactory.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
- Not Applicable N/A

ADDITIONAL COMMENTS

Amarillo College DISTANCE EDUCATION

HELP

Frequently Asked Questions

Glossary of Internet Terms - Listing of Internet terms and their definitions.
(Provided by Matisse Enzer.)

Free Email Accounts from popular sites

- Hotmail
- Juno
- RocketMail
- Yahoo

Software

- Adobe Acrobat Reader - view PDF files
- Crescendo - streaming audio
- Macromedia Flash - animation
- Macromedia ShockWave - animation
- Microsoft Internet Explorer - Internet browser
- Netscape Communicator - Internet browser
- RealPlayer G2 - audio/video
- WinZip - file compression
- WS_FTP - file transfer protocol

Help on Software

- Adobe Acrobat Reader
- Crescendo
- Macromedia Shockwave and Flash
- Microsoft Internet Explorer
- Netscape Tutorial
- RealPlayer
- WinZip
- WS_FTP Tutorial

Help with Dial-up Networking for Windows 95
(Provided by the Computing & Communications Services Office of the University of Illinois at Urbana-Champaign.)

Help with Dial-up Networking for other operating systems such as Macintosh
(Provided by the Computing & Communications Services Office of the University of Illinois at Urbana-Champaign.)

Differences between browsers

Computer System

For internet based classes, the computer system can significantly effect the quality of the course. Some software applications, particularly some of the Archipelago software used in the Chemistry and Economics courses, will not run on less than the minimum systems.

Minimum	Recomended
WINDOWS • Pentium 150 Mhz running Windows 95, Windows 98 or NT 4.0 • 32 megabytes of RAM • 8-bit SVGA board that is MPC Level II compliant, and a color SVGA monitor • 16-bit audio card, and speakers or headhones • Quad-speed CD-ROM drive • Internet connectivity at 28.8 Kbps	**WINDOWS** • Pentium 300 Mhz running Windows 95, Windows 98 or NT 4.0 • 64 megabytes of RAM • 16-bit SVGA board that is MPC Level II compliant, and a color SVGA monitor • 16-bit audio card, and speakers or headhones • Quad-speed CD-ROM drive • Internet connectivity at 56.6 Kbps
MACINTOSH Brazosport College does not support Apple systems. • Macintosh PowerPC 603e/180Mhz or 604/132 Mhz computer running Mac OS 8.0 • 32 megabytes of RAM • 16-bit display, 640x480 pixels minimum • Quad-speed CD-ROM drive	

Coastal Bend College Internet Use Policy

Acceptable uses of the Internet and college e-mail

The college encourages the use of the Internet and e-mail because they make communication more efficient and effective

However, Internet service and e-mail are college property, and their purpose is to facilitate college business.

Every person has a responsibility to maintain and enhance the college's public image and to use college E-mail and access to the Internet in a productive manner.

To ensure that all persons act responsible, the following guidelines have been established for using e-mail and the Internet.

Any improper use of the Internet or e-mail is not acceptable and will not be permitted.

Unacceptable uses of the Internet and college e-mail

The college e-mail and Internet access may not be used for transmitting, retrieving, or storing of any communications of a discriminatory or harassing nature or materials that are obscene or X-rated.

Harassment of any kind is prohibited.

No messages with derogatory or inflammatory remarks about an individual's race, age, disability, religion, national origin, physical attributes or sexual preference shall be transmitted.

No abusive, profane or offensive language is to be transmitted through the college's e-mail or Internet system.

Electronic media may also not be used for any other purpose which is illegal or against college policy or contrary to the college's best interest.

Solicitation of non-college business or any use of the college e-mail or Internet for personal gain is prohibited.

Communications

Each person is responsible for the content of all text, audio or images that they send over the college's e-mail/Internet system.

No e-mail or other electronic communications may be sent which hides the identity of the sender or represents the sender as someone else.

All messages communicated on the college's e-mail/Internet system should contain the person's name.

Any messages or information sent by a person to an individual outside of the college via an electronic network (e.g., bulletin board, online service or Internet) are statements that reflect on the college.

While some users include personal "disclaimers" in electronic messages, there is still a connection to the college, and the statements may be tied to the college.

All communications sent by persons via the college's e-mail/Internet system must comply with this and other college policies and may not disclose any confidential or proprietary college information.

Software

To prevent computer viruses from being transmitted through the college's e-mail/Internet system, there will be no unauthorized downloading of any unauthorized software.
All software downloaded must be registered to the college.
Persons should contact the CBC Computer Center if they have any questions.

Copyright Issues

Copyrighted materials belonging to entities other than this college, may not be transmitted by persons on the college's e-mail/Internet system.
All persons obtaining access to other companies' or individuals' materials must respect all copyrights and may not copy, retrieve, modify or forward copyrighted materials except with permission, or as a single copy to reference only.
Failure to observe copyright or license agreements may result in disciplinary action up to and including termination.

Security

The college routinely monitors usage patterns for its e-mail/Internet communications.
The reasons for monitoring are many, including cost analysis/allocation and the management of the college's gateway to the Internet.
All messages created, sent, or retrieved over the college's e-mail/Internet are the property of the college and should be considered public information.
The college reserves the right to access and monitor all messages and files on the college's e-mail/Internet system. Persons should not assume electronic communications are private and should transmit highly confidential data in other ways.

Violations

Any person who abuses the privilege of college facilitated access to e-mail or the Internet will be subject to corrective action up to and including termination.
If necessary, the college also reserves the right to advise appropriate legal officials of any illegal violations.

Welcome to the **Houston Community College on-line admissions application**. It is very important that you read this page thoroughly before beginning the application process. You should also read the Admissions Policies prior to completing your application. This explains the Admissions Policies, Basic Procedures for Admissions, Assessment/TASP, and Residency Requirements.

This web admissions application can be used in place of the Houston Community College paper application and, unless you are instructed otherwise, it is only necessary for you to submit this web application. **If you need to make changes to your application once submitted, you will need to go to an Admission Center.**

Who should complete this web application?

New Applicant

Distance Learning Only Students

Who should NOT complete the web application?

Returning Student

International Applicant WITHOUT a Visa number (These students should go to the HCCS International Student site)

NEXT ▶

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Important Notice: To protect your personal information, we recommend you close out your web browser after you have finished submitting your application for admission or at any point, if you are unable to complete the submission process.

Completing the Application

This process should take between 15 and 30 minutes. **You must complete the entire application in one session.** You are not allowed to save or submit an incomplete application.

Checklist of Items You Will Need
You will not have the opportunity to save your application and return to it later. You should have the following items with you before you begin.

- Social Security Number
- Visa/Permanent Resident Information
- Texas Driver's License
- Social Security Number of Parent/Guardian (if residency claimed upon Parent/Guardian)
- Permanent Resident Information of Parent/Guardian, if applicable (if residency claimed upon Parent/Guardian.)
- TASP scores
- SAT, ACT, and/or TAAS Scores and Test Dates
- Dates of high school and college attendance

Application Review
You will be given an opportunity to review your application prior to submitting it. You will be allowed to make changes.

Submission & Summary
Your application is not considered submitted until you have supplied the required information, electronically signed the application, and selected the "Submit" button to send your application to Houston Community College. Once your application is submitted, you must go to an Admission Center to make any changes. After you submit your application a window will appear that will display a summary of your application. **This summary should be printed, used during advisement, and saved for your records.**

Pre-Registration Information Seminar (PRIS)
All new students with fewer than 15 semester credit hours enrolling in college level courses are required to attend a Pre-registration Information Seminar. Contact an Admission Center for schedule information.

In this application, you will be asked to indicate your intended course of study. You may wish to review the Houston Community College Catalog to review

ST. PHILIP'S COLLEGE
Online Catalog

Welcome to the St. Philip's College Online Catalog, which contains all of the information found in our printed 1998-99 catalog. Our 1997-1998 Online Catalog is still available here. Use the menubar to the left or choose a section from the list below:

GO► **Academic Calendar**

A schedule of events for the current and future semesters, including add/drop deadlines and College holidays.

GO► **General Information**

A history of the College, descriptions of College facilities with maps, and mission statements for the College and the Alamo Community College District.

GO► **Admissions & Registration**

Admission requirements and procedures for beginning, transfer, international, and non-traditional students; and information about Continuing Education, Telecourse, Internet, Evening, Weekend, and Off-Campus programs.

GO► **Tuition & Fees**

List of tuition costs, residence verification, and applicable fees; plus information for Veterans and Senior Citizens.

GO► **Student Services & Activities**

Policies concerning release of student information and satisfactory academic progress; Financial Aid information, including loans, scholarships, grants, and part-time jobs; Services to Special Populations; counseling, advising, assessment, and other information relating to student support and service.

GO► **Regulations**

Academic standards and information about scholastic probation; attendance requirements; Grade Point Average (GPA) and the grading system; drops and withdrawals; and other information relating to attendance requirements.

GO► **Graduation**

Application information and requirements for graduation with an Associate Degree or an Academic Certificate of Completion.

GO► **Academic Programs**

Specific course requirements for each degree program

Admissions & Registration

Use your browser's "back" button or
the menubar at left to return to this page.

GO► **General Admissions Policy**
Please read concerning general admissions requirements.

GO► **Texas Academic Skills Program (TASP)**
TASP requirements for admission to St. Philip's College.

GO► **Transcript of Record**
About college transcripts.

GO► **Course Numbering System**
Explanation of the numbering systems used for courses.

GO► **Admission of Beginning Students**
Procedure for admission of first-time-in-college students.

GO► **Admission of Transfer Students**
Procedure for admission of students who have previously attended another college or university.

GO► **Conditional Admission**
Procedure for admission of students without proper records from prior educational institutions.

High School Transition Programs
The transition from high school to college is often a difficult process, and the type of preparation needed for this change varies among students. To meet these challenges, the College is using several approaches:

GO► **BRIDGES Programs**
A program to enhance reading, writing and math skills prior to taking the TASP.

GO► **Dual Credit Enrollments**
Allows students to earn college credit while attending high school.

GO► **Tech Prep**
Vocational preparation for students leading to placement in employment.

GO► **Early High School Admissions**
Procedures for admission of traditional and non-traditional high school students.

GO► **Readmission to College**

Homepage | Map | Comments

CENTRAL TEXAS COLLEGE

Testing Guidelines for Online Students

All students who will not be testing in the Central Texas College Central Campus Testing Center in Building 119, Room 220, must identify an appropriate testing center and testing proctor. A testing center and test proctor must be identified on the Online Enrollment Form before registration is completed. Online students will not be enrolled until the offsite testing form is in hand. The Central Texas College Distance Learning Staff recommend that an appropriate testing center is one of the following:

- **Community college testing center under the supervision of the director of the center.**
- **Central Texas College Service Area Site and Site Director as proctor.**
- **Central Texas College Continental or International Site and Site Director as proctor.**
- **Army or other service branch education center or testing center with education center or testing center personnel serving as test proctor.**

FOR STUDENTS TESTING AT THE CENTRAL TEXAS COLLEGE MAIN CAMPUS TESTING CENTER:

- **If you are a student enrolled in an online class and will be testing at the Central Campus Testing Center, you will need to arrange for testing at the CTC Testing Office, Building 119, Room 220, 526-1254 or email the center at distlrn2@ctcd.cc.tx.us. Your instructor will let you know when it is time for your exams. At least 24 hours prior to the testing date, you will need to call the CTC Testing Office at 526-1254 to make an apppointment to take your exam. Your instructor will make sure the exam is at the Testing Office unless the instructor makes arrangements with you to take the exam in their office. You will need to communicate with your instructor at the beginning of the class to determine which option is the most convenient for you both.**

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Up

Before registering for courses, e-mail a distance learning advisor. Your advisor will assist you to in identifying prerequisites and courses that will meet your long term educational goals.

What is your name?

What is your mailing address?

What is your e-mail address?

Enter below any question or information that you would like to receive from the advisor.

After you click on the Submit button, this form will be sent to an advisor who will respond to your request soon.

Send Request | Clear Form

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General Information	Library Tutorial for Research Assistance	Library Catalogs On the Web
DCCCD Library Home Page		Directories of Area Libraries
Home Pages of DCCCD Campus Libraries	Ask a Librarian	Resources
Basic Library Skills	FAQ	Request a Book

ALPHABETICAL GUIDE TO OUR DIRECTORY

1. Ask a Librarian
2. Basic Library Skills to Know
3. DCCCD Library Home Page
4. Directory of Area Libraries
5. Frequently Asked Questions (FAQ's)
6. General Information
7. Home Pages of DCCCD Campus Libraries
8. Library Catalogs On the World Wide Web
9. Library Tutorial for Research Assistance
10. Request a Book
11. Resources

Dallas TeleCollege Library and Richland College Library.
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Revised: January 27, 1999

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Can I access the Library's Databases from off-campus?

Yes, but....

The Library's internet databases can be accessed from off-campus by Hill College students, faculty and staff via a **proxy server.** In order for the proxy server to work properly, it will require setting **OPTIONS** in your Internet browser. Instructions for doing this are provided below. It will also require having the **username and password**. Your **username** consists of the first letter of your first name followed by your complete last name. Your **password** is your student i.d. number

Please note that accessing these databases in this manner will result in much slower response times. This is not an error. Please do not report slow response to the library.

Instructions are provided below on how to turn the proxy setting on and off.

What is a proxy server?

When you have configured your browser properlly follow this link:

Internet Databases

[Databases]

Instructions for Broswers

Netscape 3.0
Netscape 4.0
Microsoft Explorer--Mac
Microsoft Explorer--Win95

If you are using AOL or other similar providers, you will need to check with

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Northeast Texas Community College

BOOKSTORE

GO CAMPUS HOME | Get Your Textbooks | Store Information | Shop with Confidence | Feedback

WHAT'S NEW

TEXT ADOPTIONS

ABOUT TEXTBOOKS

Would you like to know when new services become available? Give us your full email address

REGISTER

When we start offering a new service, we'll let you know. We only collect your email address here for this purpose and don't use it anywhere else on our site.

AUTHENTICATED VeriSign SITE CLICK TO VERIFY

Get Your Textbooks Online TODAY!

Right now you can order your textbooks or other course materials online via our Textbook Ordering System. It's the easiest way to avoid standing in long lines and we make sure that you get the right book or related course materials, GUARANTEED.

START

PLEASE NOTE!!

Textbooks with n/a in the price column are not available at this time.

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GLOSSARY

Asynchronous delivery – does not require the simultaneous participation of all students and instructors. Methods include email, listservs, audio cassettes, videotaped classes, correspondence courses, and on-line Web-based courses.

Browser – browser software resides on the personal computer, provides access to the server and allows the user to display a Web page. Examples of browsers are Lynx (text only), Mosaic, Netscape Navigator, Microsoft Internet Explorer, and America Online.

Computer assisted Instruction (CAI) – In CAI the computer provides a direct instructional tool for a student or small group of students with the goal of having the student learn a defined body of content, skills, or instructional objectives. Examples are tutorials and simulation programs.

Computer based instruction / learning (CBI) - The use of computer technology to provide direction, instruction, or management of instruction to the student.

Computer based interactive multimedia (CBIM) – CBI is delivered in a combination of computer and media formats. This is CBI with the integration of audio and video media, such as text, still/animated computer graphics, still/moving video images, and audio, all in digitized format.

Computer managed instruction (CMI) – The computer assesses each individual student on knowledge of a specific body of content, skills, or instructional objectives and informs the student of his level of knowledge (diagnostic). The computer also communicates to the learner what study assignments are to be undertaken to remove the areas of weakness identified in the diagnosis.

Electronic Message (e-mail) – using public and private telecommunications facilities to capture, store, and distribute information among humans. Data, graphic, video, and audio information may be transmitted in digital format.

FTP – file transfer protocol. A service/program that lets you copy files from Internet server to another.

Internet – system of linked computer networks, worldwide in scope, that facilitates data communication services such as remote login, file transfer, electronic mail and distributed newsgroups.

ISDN - (Integrated Services Digital Network) A way to move more data over existing regular phone lines. It can provide speeds of roughly 128,000 bits-per-second over regular phone lines.

Java (Java script) - A network-oriented programming. Using small Java programs (called *Applets*), Web pages can include functions such as animations, calculators, and other 'special effects.

Links – Hyperlinks. HTML scripted addresses, or URLs within a document. Links provide access to specific locations within a webpage as well as other internal or external webpages.

Local area network (LAN) – linkage of personal and other computers within a limited area by high-performance cables so that users can exchange information, share expensive peripherals, and draw on the resources of a massive secondary storage unit, called a file server.

Network – computer-based communications and data exchange system created by physically connecting to one or more computers.

PDF - Portable Document Format, a universal file format that preserves all of the fonts, formatting, colors, and graphics of any source document, regardless of the application and platform used to create it. PDF files are compact and can be shared, viewed, navigated, and printed exactly as intended by anyone with a free Adobe Acrobat® Reader.

PIN – Personal Identification Number. A numeric or alphanumeric code used to acquire access to an operating system or database.

Plug-in - Software that adds features to a larger piece of software. Common examples are plug-ins for the Netscape browser and web server. Adobe Photoshop also uses plug-ins.

Server – server software resides on one computer and allows individuals to access Web pages (by way of browser software) that reside on that server. An in-house systems operator or a commercial service provider usually operates servers.

Synchronous delivery – requires the simultaneous participation of all students and instructors; interaction is done in real-time. Forms include interactive TV, audiographics, computer conferencing, interactive relay chat (IRC) and multi-user object oriented (MOO).

Telnet - The command and program used to *login* from one Internet site to another. The telnet command/program gets you to the login: prompt of another host.

URL - Uniform Resource Locator - a consistent addressing system used on the Internet.

Web-based instruction (WBI) – a hypermedia-based instructional program which utilizes the attributes and resources of the World Wide Web to create a meaningful learning environment.

Web page or document – what is displayed by a Web browser. Every Web site has a home page, or top level, that is first seen when a user goes to a Web site. Internal pages are separate from the home page, and are part of the Web site structure. External pages are authored by others at other Web sites and are accessed by users of the original site when they choose a link to that page.

Wide area network (WAN) – uses high-speed, long-distance communications networks or satellites to connect computers over distances greater than that transversed by local area networks.

World Wide Web – a hypertext system or method of accessing the information resources of the Internet.

Descy, 1997, p. 278; Hackbarth, 1997, p. 192; Khan, 1999, p.6;Maddux, 1997, p. 8; Smith, 1998, np; Szabo, 1995, p. 166

END

U.S. Dept. of Education

Office of Educational
Research and Improvement (OERI)

ERIC

Date Filmed
October 02, 2000

U.S. Department of Education
Office of Educational Research and Improvement
(OERI)
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Educational Resources Information Center (ERIC)

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